HIO STATE
NIVERSITY
JUL 11 1927
LIBRA

DOMESTIC ENGINEERING

The Plumbing and Heating Weekly

Water wheel in Syria—used in irrigation work.

JULY 9, 1927

The Shower is the H952½ mixometer and the Bath Fixture the Deshler. The Combination is the H2370.

This man will be influenced toward putting in a shower

. . . if you display one in your window

This is the time of the year when people think most of showers and shower bathing. To the man on the street the sight of water flowing from a shower head promises relief from heat. The display of even a Portable type influences the shower sale, and ofttimes immediately.

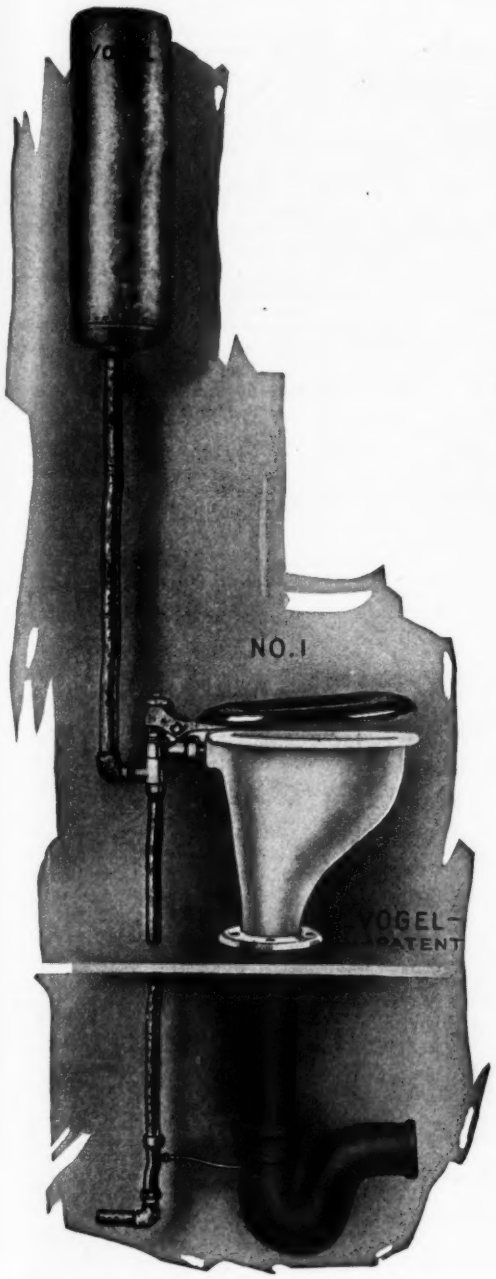
Why not display a Speakman Shower in your window during July and August? Give your customers folders featuring the cleanliness of the shower and the relief it affords from fatigue.

We shall be glad to help you with literature and newspaper illustrations.

SPEAKMAN COMPANY
WILMINGTON, DELAWARE

SPEAKMAN SHOWERS and FIXTURES

"Safe to build in the wall"



Despatch

Despatch is the soul of business. — Chesterfield

Speed in everything undertaken is the foremost requisite of every business undertaking today.

Delay in taking advantage of the opportunities for profit that present themselves has been the cause of the failure of more than one promising venture.

Putting off the matter of investigating the profit possibilities of **VOGEL** Frost Proof Closets and Hydrants means a *loss* to you.

For every day that you pass up **VOGEL** product installations, you can figure you have missed plenty of dollars that could otherwise be in the bank for you. *Isn't it worth an inquiry when the returns are so great?*

Write us at once for full **VOGEL** agency plan, prices and sales helps.

Jovo

Jos. A. Vogel Co.

Wilmington, Del. **St. Louis, Mo.**

VOGEL PATENTED

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Telephone: Rittenhouse 2285
Pittsburgh Office, Room 604, Chamber of Commerce Bldg.
Bell Phone: Grant 8741-8745

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Vol. 120, No. 2 Whole No. 1804

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A Quality Heater WITH A CLEAN PROFIT

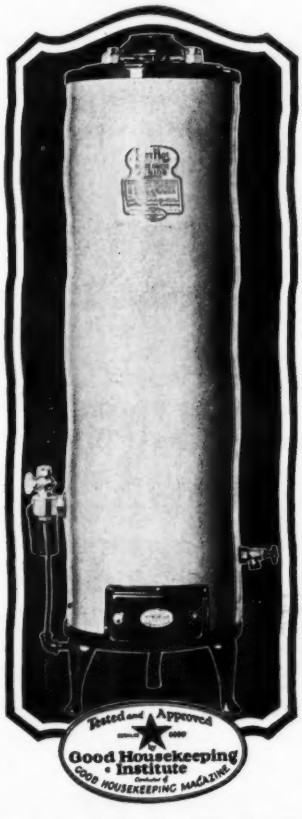
There are fifty-eight EverHot distributing offices in the United States. Each office carries stock and renders sales and engineering services. This broad organization exists for the purpose of serving the plumbing trade of the whole country on EverHot Heaters.

EverHot Offices

Principal Offices and Sales Rooms Carrying Stock and Rendering Sales and Engineering Services

Albany, New York.....27 Columbia Street
Auburn, New York.....38 Lewis Street
Baltimore, Md.....504½ St. Paul Street
Bartlesville, Okla.
Battle Creek, Mich.....123 Marshall Street
Birmingham, Ala.....410 N. 22nd Street
Buffalo, N. Y.....*54 Otis Place*
Boston, Mass.....35 Hartford Street
Chicago, Ill.....58 E. Washington Street
Cincinnati, Ohio.....1123 Walnut Street
Cleveland, Ohio.....*302* Euclid Arcade Annex
Columbus, Ohio.....243 N. High Street
Dallas, Texas.....Elm and Griffin Streets
Denver, Colo.....335 14th Street
Des Moines, Iowa.....920 Grand Avenue
Detroit, Mich.....4460 Cass Avenue
El Paso, Texas.....*1617 Bassett Avenue*
Evansville, Ind.....217 Locust Street
Grand Rapids, Mich..135 Front Avenue, N. W.
Hartford, Conn.....50 Trumbull Street
Holland, Mich.....206 College Avenue
Hutchinson, Kan.....19 E. Second
Indianapolis, Ind.....*210* So. Capitol Avenue
Kansas City, Mo.....3427 Main Street
Lansing, Mich.....321 N. Washington Avenue
Lawton, Okla.....206 C Avenue
Little Rock, Ark.....114 E. 7th Street
London, England.....42 Newgate Street
Los Angeles, Cal....2421 W. Washington Street

EverHot AUTO-MATIC WATER HEATER



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Principal Offices and Sales Rooms Carrying Stock and Rendering Sales and Engineering Services

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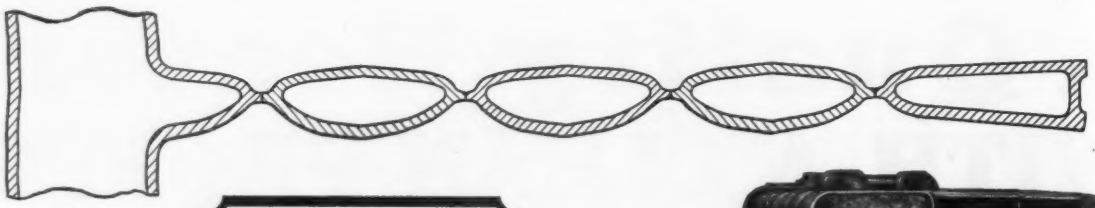
Lynchburg, Va.....208-210 Fifth Street
Memphis, Tenn.....244 Madison Street
Milwaukee, Wisc.....137 E. Wells Street
Minneapolis, Minn.....1316 Marquette Avenue
Montreal, Quebec.....*142 William Street*
Mt. Clemens, Mich.....78 Macomb Street
Newark, N. J.....277 Central Avenue
New Orleans, La.....700 Carondelet Street
New York, N. Y.....101 Park Avenue
Oakland, Cal.....628 Webster Street
Paducah, Ky.....*319 Kentucky Avenue*
Peoria, Ill.....234 S. Jefferson Avenue
Philadelphia, Pa.....2401 Chestnut Street
Pittsburgh, Pa.....207 Fulton Building
Port Huron, Mich.....1119 Military Street
Portland, Ore.....12th and Alder Streets
Providence, R. I.....*1566* Broad Street
Richmond, Va.....306 E. Main Street
Rochester, N. Y.....9 Russell Street
Salt Lake City, Utah.....402 Scott Building
San Antonio, Texas.....325 Main Street
San Francisco, Cal.....77 O'Farrell Street
St. Joseph, Mo.....412 Felix Street
St. Louis, Mo.....3930 Enright Avenue
Syracuse, N. Y.....524 N. Salina Street
Toledo, Ohio.....925 Summit Street
Tulsa, Okla.....419 E. Fifth Street
Wichita, Kan.....351-3 N. Main Street

The plumber's profit on the EverHot is a clean profit. When the heater is installed our organization takes the responsibility for its satisfactory operation. We see to it that every user is a booster.

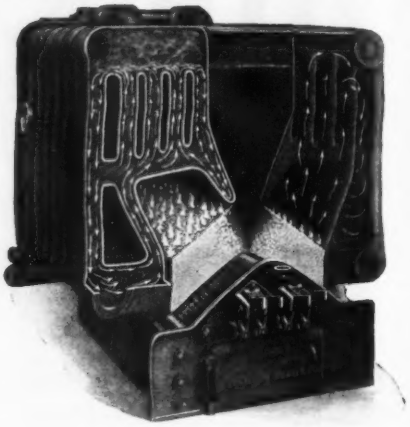
You can figure to a cent your net profit on an EverHot Heater the day the heater is sold.

EverHot Heater Company

5211 Wesson Avenue :·: **Detroit, Michigan**



One of a number of
Important Spencer Heater
Features that save money,
labor, time and servicing
for the Heating Contractor



Number 9

Waterways

CAST IRON SECTIONAL HEATERS

One size nipples on all Spencer Cast Iron Sectional Heaters.

Unrestricted water flow.

Vertical and horizontal circulation, the horizontal circulation flow caused by colder return entering boiler at water line.

Spencer No. 1 Single Grate Heater, capacity in direct cast iron radiation equivalent, water, 750 to 1500 square feet; steam or vapor, 450 to 900 square feet.

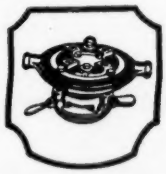
Spencer No. 2 *Double Grate* Heater, capacity in direct cast iron radiation equivalent, water, 1575 to 3570 square feet; steam, 975 to 2240 square feet.

Spencer
steam . vapor or hot water
Heaters
burn No. 1 Buckwheat coal

SPENCER HEATER COMPANY General Offices: WILLIAMSPORT, PA.
New York City Boston Philadelphia Baltimore Buffalo Rochester Hartford Albany Syracuse Scranton
Division of Lycoming Manufacturing Company

STEAM CAPACITIES: Cast Iron Sectional *from 600 feet to 3,200 feet.* Steel Tubular *from 2,000 feet to 16,000 feet*

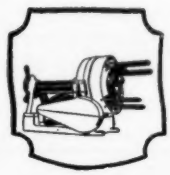
Bull Dog Die Stocks
In 15 sizes for pipe from ⅛" to 5"—plain or ratchet type.



Receding Die Stocks
Three sizes—for 1" to 4" pipe

NEXT time you need pipe-threading equipment take a look at an Oster before you buy—and you'll buy an Oster, because in the last three years Oster has produced a series of pipe-threading inventions and improvements never before equalled in a similar period.

OSTER



Power Boy
Quickly and easily moved—runs from a light socket—in three sizes for ¼" to 2"—with auxiliary drive up to 4".

Power Machines
In eleven sizes for pipe from ¼" to 8".

* * * *

Also pipe vises, cutting tools and special dies.

WHETHER the pipe is an eighth inch or eight inches—or anywhere in between—you can make a saving in time, labor and money by using an Oster. The quick starting, lever operated die stocks and the self-locking guides are but two of the many features that have made Oster the most universally used pipe tools in the world. No matter under what conditions the job has to be done you can do it better with an Oster. The Oster catalog describes the most complete line of pipe-threading equipment in the world. A copy will show you how to bring your pipe-threading *up-to-date. Send the* coupon for your copy.

THE OSTER MFG. COMPANY
2077 East 61st Place
Cleveland, Ohio

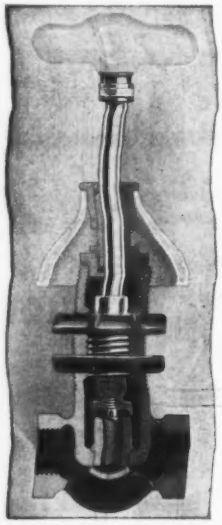
Tear Off This Corner and Fasten to Your Firm Letterhead

THE OSTER MANUFACTURING CO.
2077 E. 61st Place - Cleveland, Ohio
Send us the New OSTER Catalog

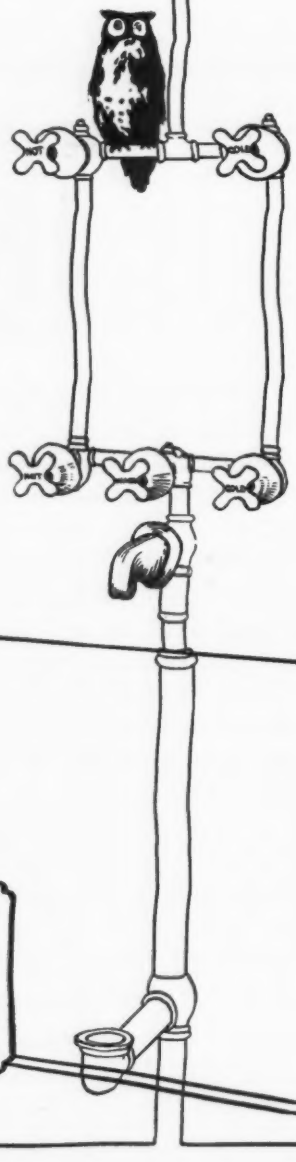
ST REGIS

CONCEALED BATH FIXTURE COMPLETE WITH SHOWER

OVER-RIM STYLE WITH LIFT WASTE



This extra heavy *Red Pressure Metal Valve* with Removable Seat is used on all *Wiseco Concealed Fixtures*. There is nothing better made.



Half a century of service in an industry that contributes more than most others to human welfare. That is something for the writers on the romance of business to ponder over.

At the end of fifty years, the Wise Co. computes its assets in good will, not in dollars, in service rendered not in bonds and real estate.

We stop at the end of fifty years and look back upon the past. But the Wise Co. policy looks to the long future, not next week or next month but toward another half century of progress and service in the plumbing industry.

—The Owl.

J. B. WISE, Inc.

Watertown, New York

New York Chicago
Philadelphia Seattle
St. Petersburg Los Angeles

MYERS SELF-OILING
A REGISTERED TRADE NAME

HIGH PRESSURE POWER PUMPS

FIG. 1866

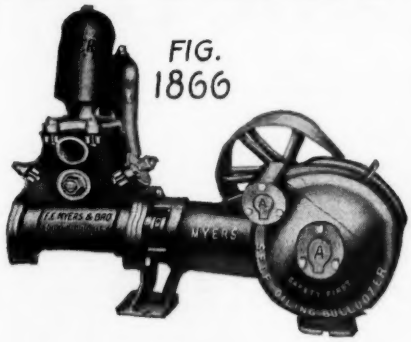


FIG. 2346

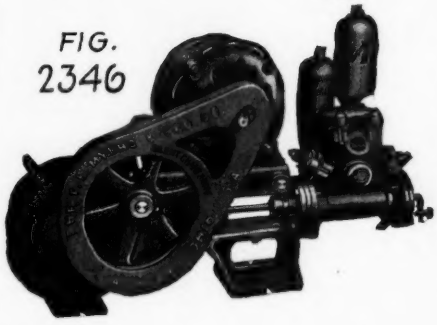


FIG. 2255

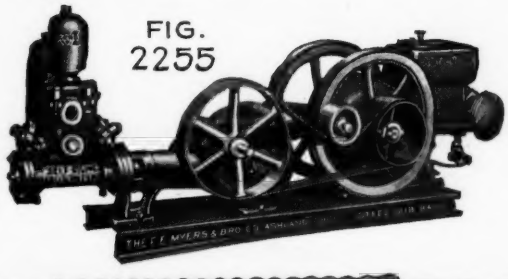
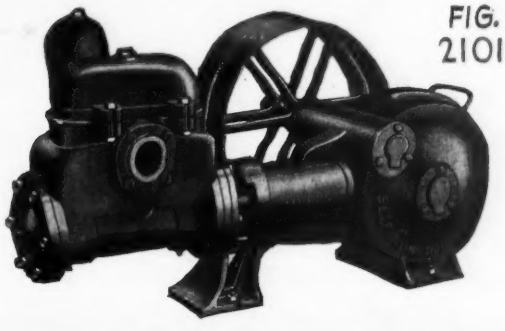


FIG. 2101



After all, when you sell a customer a power pump there is but one thing that really matters, and that *is*, will the pump give lasting satisfaction after it has been installed?

In developing Myers Self-Oiling Power Pumps we have recognized at all times that satisfied users are business boosters, that sales depend on performance, and finally, that performance depends on the pump itself.

And here is the secret of the success and of the widespread adoption of Myers Self-Oiling Power Pumps in agricultural, commercial, industrial and educational circles. So designed and so built as to render an exceptional standard of service, they win at the start and finish with colors flying.

Take Off Your Hat To The MYERS
PUMPS · WATER SYSTEMS · HAY TOOLS · DOOR HANGERS

MYERS SELF-OILING
A REGISTERED TRADE NAME

BULLDOZER DEEP WELL WORKING HEADS

The inherent qualities of Myers Self-Oiling Power Pumps are nationally known. And what a wonderful trade asset they have become. It's either a Myers, or just as good as the Myers, but you take no chances when you buy a Myers, are now common expressions in trade circles the land over.

Dealers who recognize the best in power pump construction recognize in Myers those outstanding improvements which create business—those protected features which meet exacting demands—those refinements which simplify installation and operation, and add years of life to the pump itself.

Eight styles are illustrated in this advertisement. They indicate at a glance the completeness of the Myers line for every requirement up to ten thousand gallons per hour. Numerous other types are also cataloged in our No. PP59 Edition, a copy of which will be mailed to any responsible dealer on request.

FIG. 1996

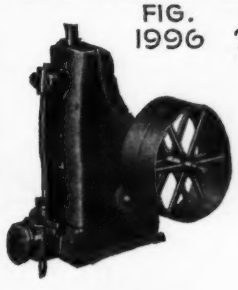


FIG. 2195

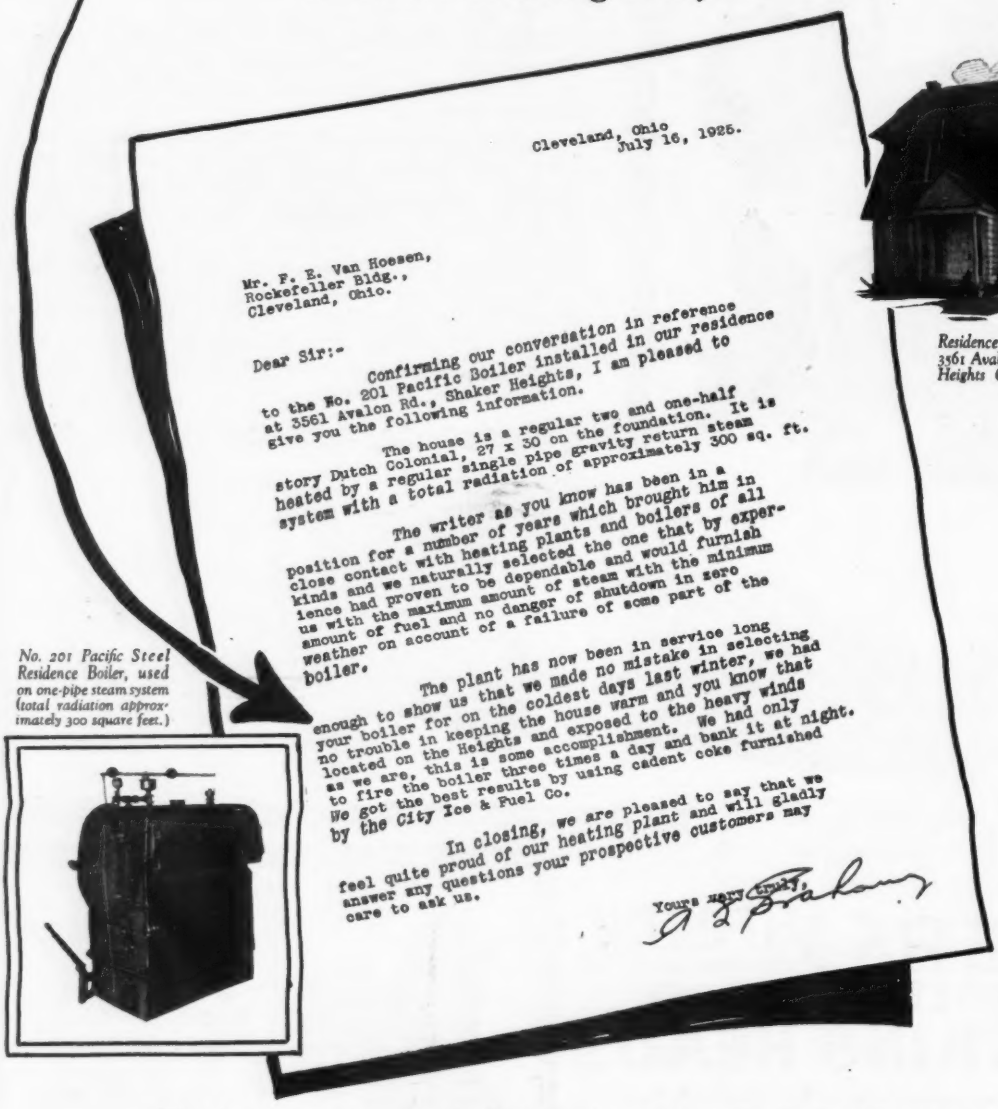
FIG. 2344

FIG. 2312

THE F.E. MYERS & BRO. CO.
ASHLAND, OHIO.
ASHLAND PUMP AND HAY TOOL WORKS

High Winds, Cold Days

— yet little fire-tending is needed here, to insure heating comfort



Cleveland, Ohio
July 16, 1925.

Mr. F. E. Van Hoesen,
Rockefeller Bldg.,
Cleveland, Ohio.

Dear Sir:-

Confirming our conversation in reference to the No. 201 Pacific Boiler installed in our residence at 3561 Avalon Rd., Shaker Heights, I am pleased to give you the following information.

The house is a regular two and one-half story Dutch Colonial, 27 x 30 on the foundation. It is heated by a regular single pipe gravity return steam system with a total radiation of approximately 300 sq. ft.

The writer as you know has been in a position for a number of years which brought him in close contact with heating plants and boilers of all kinds and we naturally selected the one that by experience had proven to be dependable and would furnish us with the maximum amount of steam with the minimum amount of fuel and no danger of shutdown in zero weather on account of a failure of some part of the boiler.

The plant has now been in service long enough to show us that we made no mistake in selecting your boiler for on the coldest days last winter, we had no trouble in keeping the house warm and you know that located on the Heights and exposed to the heavy winds as we are, this is some accomplishment. We had only to fire the boiler three times a day and bank it at night. We got the best results by using cadent coke furnished by the City Ice & Fuel Co.

In closing, we are pleased to say that we feel quite proud of our heating plant and will gladly answer any questions your prospective customers may care to ask us.

Yours very truly,

A. F. Graham

No. 201 Pacific Steel Residence Boiler, used on one-pipe steam system (total radiation approximately 300 square feet.)

Residence of A. F. Graham, 3561 Avalon Road, Shaker Heights Cleveland, Ohio

This home owner is proud of his heating plant—a Pacific Steel Residence Boiler. *It's a successful job—the sort that is making friends for architects,* engineers, and heating contractors everywhere, when they specify or install the Pacific. Leak-proof, break-proof; ample capacity to meet emergencies, efficient performance the season through. Write for complete information.

STEEL HEATING BOILERS · PACIFIC · WAUKEGAN, ILL. BRISTOL, PA.

PACIFIC

STEEL RESIDENCE BOILERS

WAUKEGAN, ILL. BRISTOL, PA.

One in a series of advertisements outlining the early development of plumbing ideas. A complete folio of this plumbing history will be sent on request.

Plumbing Progress in the 17th Century

DURING the reign of Queen Elizabeth the first apprenticeship laws were passed. These compelled plumbers to serve an apprenticeship of seven years. In 1611 the first Master Plumbers' Association was organized in England. In materials and manufacturing methods also improvements were being made in Europe during the middle ages.

Pipes of lead, wood, iron, concrete and even gold have been used during the centuries past for the conduct of water.

In 1760 pipe in France was manufactured in the method illustrated above. The first seamless brass tubing was made in England in 1838 and in 1850 the process was introduced into this country.

As the passing years have brought increased experience to the skilled mechanics in the little state of Connecticut, the quality of brass pipe has slowly improved until in October, 1916, the revolutionary introduction of electric furnaces by the Bridgeport Brass Company assured a more uniform brass. It is this uniformity which makes Bridgeport Plumrite the standard brass pipe. Use it in every installation and you'll not only be building a business reputation measurable in dollar and cents, but you'll also be classing yourself with the aggressive plumbers who are making their trade proud of its achievement in sanitation.

"Bridgeport" BRASS TRADE MARK CO.
Plumbing Goods
WE MAKE
Plumrite Brass Pipe
Traps & Tank Bends
Basin & Bath Supplies
Tank Supplies & Straight Wastes
Patented Sink Plugs
P.O. Plugs & Flanges
Flat Sink Strainers
Sink Connections
Connec'd Waste & Overflow
Flush Valves and Fittings

BRIDGEPORT BRASS

PIPE FITTINGS FLUSH VALVES TUBULAR PLUMBING GOODS

Plumrite Plumrite Plumrite Plumrite

Bridgeport Brass Co., Bridgeport, Conn. - New York - Philadelphia - Chicago - Detroit - Cleveland

EXCEL

UNIONS EXCEL

For a safe, tight, lasting connection use EXCEL UNIONS

Because nothing has been overlooked in making EXCEL UNIONS perfect.

The best air-refined malleable iron—the purest brass for the seat ring—an absolutely tight ball joint—pipe ends tapped with Briggs tapered threads and each size scientifically proportioned—that is the process which gives EXCEL UNIONS their name.

Listed as standard by Underwriters' Laboratories

PROVIDENCE FITTINGS CO.

7 WATER STREET :: BOSTON, MASS.

New York Office: 210 E. 45th Street

A Letter from Harry G. Nye

July 9, 1927.

To the Plumbers and Steamfitters
of the U. S. A.

Fellow Citizen:

Well, the convention and exposition of the National Master Plumbers Association at Minneapolis was some show! When the Minneapolis people heard I was going to exhibit the new Nye power threading machine they put up a brand new exposition building to take care of the crowds that would want to see it. They came, thousands and thousands of them, and several of them were plumbers.

One fellow listened to me put up my finest line of talk for about 15 minutes, and I nearly fell dead when he told me he was in the undertaking business. I suppose the reason he hung around our booths was because we are both in the die business. When he found out that Nye tools prolong life, he lost all interest.

There were half a million dollars worth of other exhibits there besides mine. Two bath-tub manufacturers had brass bands playing all the time, so I guess there must be money in making bath-tubs after all. I know I have been accused of blowing my own horn, but the reason I do it is because I haven't the money to hire it done for me, like a bath-tub manufacturer.

There was also a prizefight. The other night in Chicago I paid $11 for a ringside seat along with 30,000 people to see a darned sight poorer show. The way those fellows went at each other at Minneapolis, you would have thought they were competitors. The only difference between a prizefight and a contract letting is that in a fight you get soaked in the solar plexus and on a contract you get soaked in the specifications.

And, say, the vaudeville show! C. R. Crane II put on a show that would have made P. T. Barnum jealous. I know it did me. No less than 13,500 people came to see it, including as many delegates as were able to get in, and it ran off like rain off a roof. All I need say about this young Crane is that he is a bird. The Crane show was a fitting climax to a great convention, but then the Cranes are in the fittings business anyway, so why shouldn't it be?

Of course, the new Nye power pipe-threader created a sensation, and it was a pleasant sensation. It's nice to know that it is not only a humdinger in the shop, but you can take it right out on the job, plug into a light-socket, and say "sic 'im" to it, and it will do any pipe threading or cutting job, big or small, and save time, labor and money.

It was the biggest little thing at the plumbing trade's biggest show.

Faithfully yours,

Harry G. Nye

Copyright 1927 by Harry G. Nye
All rights reserved.

Nye Vise Stands with Pipe Bender

Equipped with or without Nye Vises. Can be drilled for any size vise specified. Bender can be used with open side vise or bench vise.

With Legs and No. 10 Self-Locking Vise, Net each.....$15.35

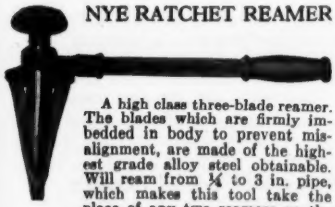
With Legs, but without Vises, Net each..... 12.00

NYE No. 51—Chain Vise
Capacity ⅛ to 2½ inches

A handy, compact little vise, possessing maximum strength, while of minimum weight. Easily carried in tool kit. Equipped with standard jaws. Having features not found in similar vises, the double lever tightening device being above the bench, rather than below, insuring faster and smoother operation.

Net Price - $4.67
Absolutely Guaranteed

NYE RATCHET REAMER



A high class three-blade reamer. The blades which are firmly imbedded in body to prevent misalignment, are made of the highest grade alloy steel obtainable. Will ream from ¼ to 3 in. pipe, which makes this tool take the place of any two reamers on the market.
Net Price.....$6.00

Nye Bit Brace Reamer

Reams from ⅛ to 1¼ inches inclusive

This reamer is made with a tapered shank which will fit any standard bit brace. Drop forged from the highest grade alloy tool steel and tempered in oil. A very handy little tool having a wider range than any other similar reamer.

List Price - - - $1.17
ABSOLUTELY GUARANTEED

OTHERWISE KNOWN AS

THE NYE TOOL & MACHINE WORKS

MANUFACTURERS OF HIGH GRADE PIPE TOOLS

4120-30 Fullerton Avenue Chicago, Illinois

CONVENIENCE
CLEANLINESS
ECONOMY

BEAUTY
WARMTH
COMFORT

All these and more too

in AERO

Gold Medal Award for excellence at the Sesquicentennial, Philadelphia, Pa., 1926.

The Aero Radiator, in addition to the above named features is the only radiator that has been thoroughly tried out on actual heating installations of every character. It has served satisfactorily in thousands of homes and buildings of every type throughout the country during the past five winters.

No other new (Aero) type radiator has such a record of successful operation behind it. Most of the imitations of the Aero Radiator have been in operation only one winter and some not even that long.

So when you figure your jobs, the price being equal, you can give your customers more beauty, more warmth and absolute dependability if you figure genuine Aero Radiation.

You can also figure a better profit, less trouble, more satisfied customers from which to solicit other business and a considerable advance in your reputation as a reliable heating contractor.

Literature and discount sheets on request.

NATIONAL RADIATOR COMPANY
JOHNSTOWN, PA.
PLANTS: Johnstown, Pa., New Castle, Pa., Trenton, N. J.
BRANCH OFFICES: New York, Philadelphia, Baltimore, Washington, Richmond, Pittsburgh, Cincinnati, Cleveland, Chicago.

BEAUTY *and* WARMTH *with*

AERO RADIATORS

130,000 feet of U. S. radiators *in the Graybar*

Sometimes a fact is so big, so almost overpowering, that little words can add nothing, that large words only detract.

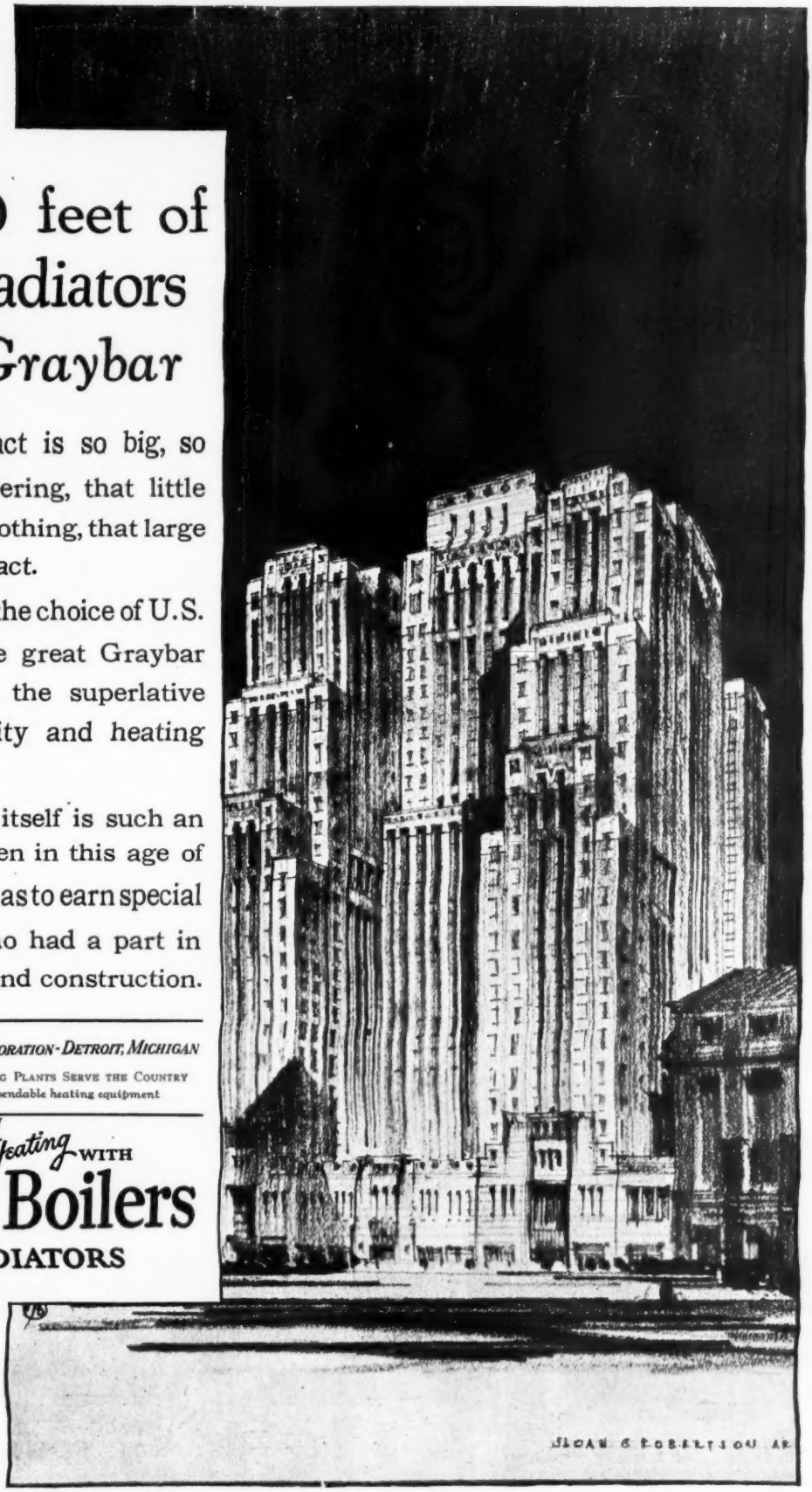
Such a fact is the choice of U.S. radiators for the great Graybar Building. It is the superlative tribute to quality and heating efficiency.

The building itself is such an achievement, even in this age of great structures, as to earn special credit for all who had a part in its conception and construction.

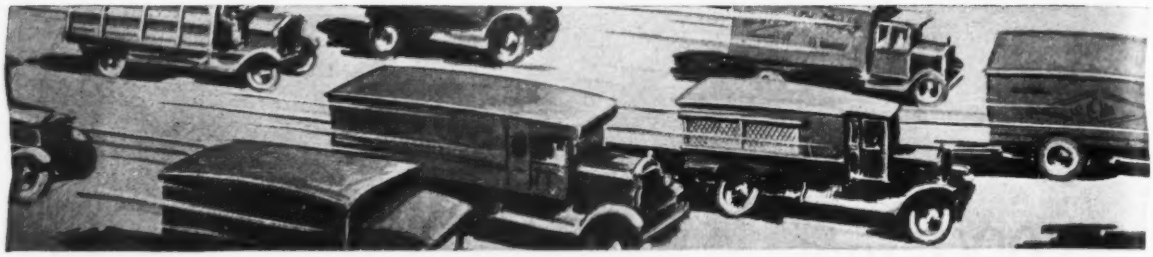
UNITED STATES RADIATOR CORPORATION · DETROIT, MICHIGAN

6 FACTORIES AND 32 ASSEMBLING PLANTS SERVE THE COUNTRY
For 37 years, builders of dependable heating equipment

Guaranteed Heating WITH
Capitol Boilers
AND RADIATORS



Architects, Sloan & Robertson; Building Contractors, Todd, Robertson & Todd Engineering Corp.; Engineer, Clyde R. Place; Heating Contractors, Baker, Smith & Co.



Faster and Better!

You need quick-starting, fast-moving trucks today—trucks that make time through traffic and stay in service. That's why you find Federals in use by the biggest and best known firms in every city.

Every truck in the Federal line of Fours and Sixes is designed to meet the needs and conditions of today. Built in capacities from 1 to 7½ tons—with options in construction to suit every buyer and every business.

For 17 years, Federal has been foremost in providing the means of moving goods faster, better and at lower cost. See the sound values Federal offers—the many truck-saving features. Get the help of a specialist in the hauling problems of plumbing and heating contractors.

FEDERAL MOTOR TRUCK COMPANY
5800 Federal Avenue - Detroit, Michigan

One of a fleet of Federals owned by Farrell Bros., Albany, N.Y.

FEDERAL

(112)

ALL SIZES **TRUCKS** FOURS & SIXES

ANNOUNCING

The NEW VENTURAFIN

TRADE MARK

Junior

(SIZE NO. 2)

—a proved heating method of remarkable effectiveness—now extended to buildings of smaller areas.

Heretofore, because of its tremendous heating capacity, the Venturafin Method of Unit Heating was limited in application to large buildings.

Now, with the new Venturafin Junior, size No. 2, the remarkable advantages and economies of the Venturafin Method are extended to smaller structures.

Now, garages, stores, depots, small shops, showrooms, and buildings of similar types and sizes can have positive heat control, even distribution of heat, and more efficient heating equipment at materially lower costs.

Venturafin Junior, size No. 2, is not a new product—it is a new, smaller size of the famous Venturafin Unit that has given revolutionary heating results in over 15,000 installations.

Write now. Get all the facts on Venturafin before you install heating equipment in any building, large or small.

AMERICAN BLOWER COMPANY, DETROIT
BRANCH OFFICES IN ALL PRINCIPAL CITIES
CANADIAN SIROCCO COMPANY, LIMITED, WINDSOR, ONTARIO
(652)

HEAT WITH UNIT HEATERS

American Blower

"Sirocco"

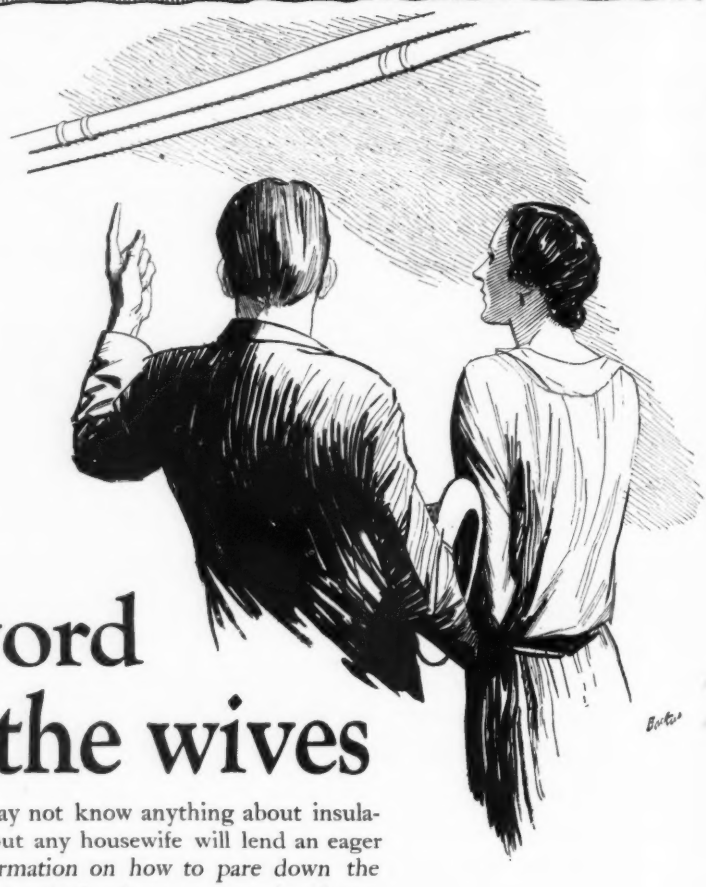
VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT

MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1881

Selling Asbestocel

No. 32

This series of advertisements gives facts about fuel waste, suggestions on how to execute the job as well as valuable selling helps. You should have a copy of the book "How to Sell and Apply Improved Asbestocel" shown below. Send for one.



A word to the wives

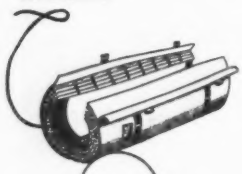
SHE may not know anything about insulation but any housewife will lend an eager ear to information on how to pare down the coal bill and make her home warmer in winter.

That's why she'll listen to you when you tell her about Improved Asbestocel. Show her how it keeps the coal in the bins longer—how it keeps the house snug and warm with the least amount of fuel.

Direct some of your sales effort toward the lady of the house. Very often you'll find in her a better prospect than her husband.

JOHNS-MANVILLE CORPORATION, MADISON AVE. AT 41ST ST., NEW YORK
BRANCHES IN ALL LARGE CITIES FOR CANADA: CANADIAN JOHNS-MANVILLE CO., LTD., TORONTO

Look for the Red Band



Selling Asbestocel is a profitable business

JOHNS-MANVILLE
Improved
Asbestocel
SAVES COAL

Do not delay–

advertising is helping you to Sell Oil Heating Equipment NOW!

OIL HEATING INSTITUTE
OIL HEAT
AS BENEVOLENT AS SUNSHINE

This is the Emblem of the
Oil Heating Institute

It is the symbol of satisfactory public service in oil heating.

Only the manufacturers who are members of the Oil Heating Institute are permitted to use it.

These manufacturers have earned their membership through the enthusiasm of thousands of home owners whom they have provided with efficient and dependable oil heating.

This emblem protects you, and it will be protected, on your behalf, by the Oil Heating Institute.

EVERYBODY is interested in oil heating, for no other modern convenience is so beneficial to health and comfort.

The Oil Heating Institute is advertising the advantages of oil heating to seven million readers each month—and the leading manufacturers are calling the attention of millions of home owners to the merits of their particular heating equipment.

Oil heating is nationwide in importance today. The public is oil-heating conscious. Users are enthusiastic, and prospects are receptive. Cash in on this opportunity for profitable business *now.*

Let us help by supplying you with authoritative information. The Oil Heating Institute's 80-page book (10c to the public) will be sent to you free if you will fill in the coupon and mail it to us attached to your letterhead. If you are also interested in commercial or industrial oil heating, please so indicate on the coupon.

OIL HEATING INSTITUTE

350 MADISON AVENUE, NEW YORK CITY

Mail the Coupon to day!

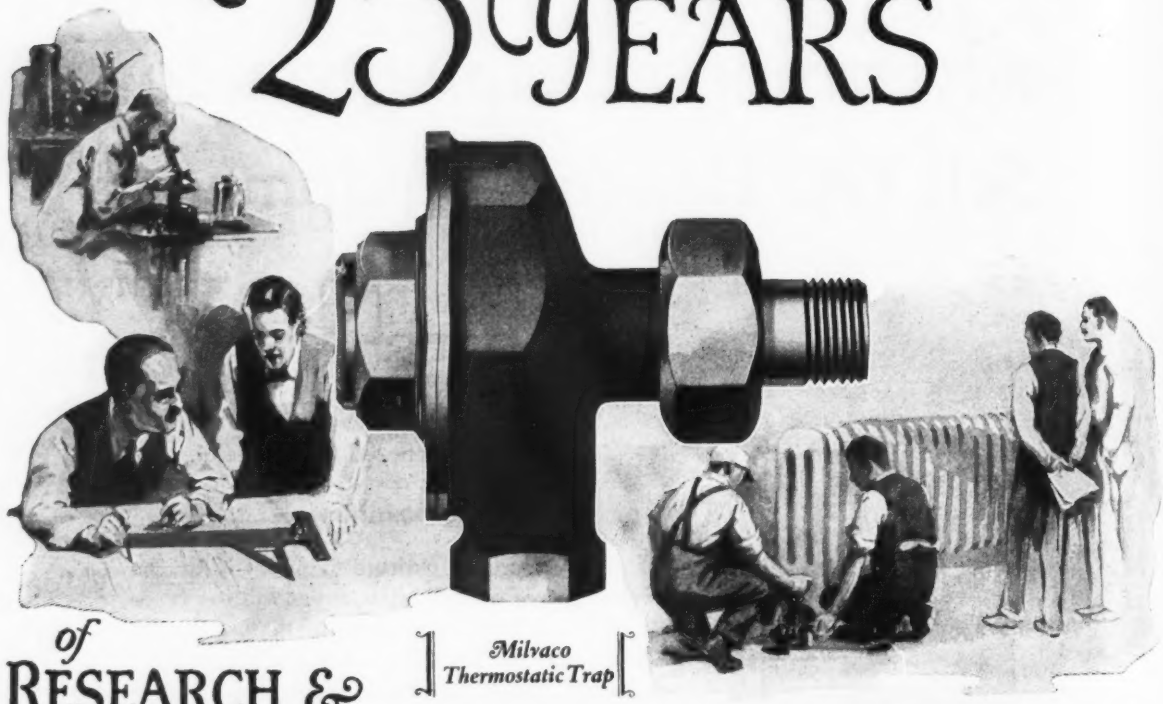
OIL HEATING INSTITUTE
350 Madison Ave., New York City

Please send me, postpaid, your book entitled "Oil Heating, The Modern Miracle of Comfort"..... I am also interested in receiving the latest data on commercial, industrial and process oil heating.....

My letterhead is attached.

Copyright, 1927, by Oil Heating Institute

25 YEARS



of RESEARCH & EXPERIENCE *in* HEATING ENGINEERING *stand behind* "MILVACO" HEATING SPECIALTIES

DEPENDABILITY! The departmental watchword at the Milwaukee Valve Co.

Dependable merchandise—dependable service—these have won for us a reputation that has resulted in an ever-increasing list of satisfied dealers. These dealers each year are welded more solidly to our organization because of these principles of **Dependability**.

Good Heating Equipment is today, as never before, a national problem and it is only through close application to new principles, a complete testing and experimental laboratory, and careful workmanship that a manufacturer can keep pace with an age of super-development.

You and your customers' satisfaction will be safeguarded and insured if you depend on Milwaukee Valve **Dependability**. We manufacture a complete line of standard valves and heating specialties.

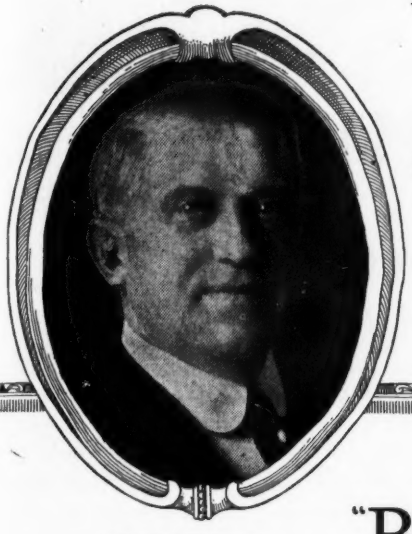
Standard Valves:
Packed Type Radiator Valves
Gate Valves
Globe Valves Angle Valves
Check Valves

MILVACO
MILWAUKEE VALVE CO

Heating Specialties:
Milvaco Traps
Dole Milvaco Packless Valves—all types
Air Vents Air Eliminators Blast Traps
Direct Return Traps

Literature covering any of our products cheerfully sent on request

MILWAUKEE VALVE COMPANY - MILWAUKEE, WISCONSIN



CHARLES M. SCHWAB

"Makers of Business Prosperity"

"BUSINESS journalism has established a great clearing house of information," says Mr. Schwab, probably as widely recognized for his human understanding of selling as for his capacity as a great manufacturer.

"You cannot have prosperity," says Mr. Schwab, "without confidence, and you cannot have confidence without a free and honest exchange of information."

* * * * *

That is the platform this publication stands on. Business publications which succeed are more than a collection of editorial and advertising pages.

* * * * *

Every publication has its specialized field of service and plays its part intimately in the interchange of information and opinion, which is the basis of prosperity to which the captain of steel refers.

* * * * *

Both editorial and advertising pages are made to fulfill this great responsibility. The men and methods the editors select for their pages and the advertising which the clients of this paper buy to inform its readers of their products, are brought together between the covers of a business journal for intimate help and service.

When you have read both editorial and advertising sections and you have a complete knowledge of the service the publisher of this journal has prepared for you; then you, like Mr. Schwab, will see it—a Maker of Prosperity.

ABP

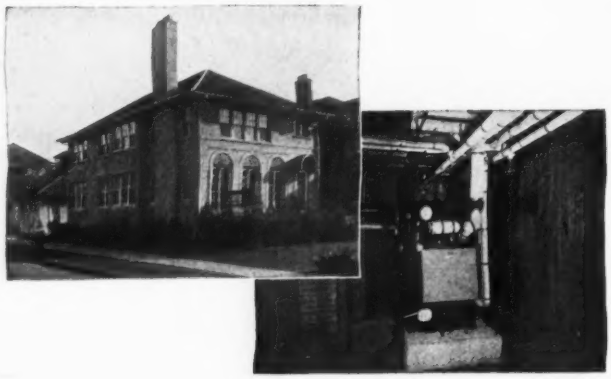
The A. B. P. is a non-profit organization whose members have pledged themselves to a working code of practice in which the interests of the men of American industry, trade and professions are placed first—a code demanding unbiased editorial pages, classified and verified paid subscribers, and honest advertising of dependable products.

This publication is a member of

THE ASSOCIATED BUSINESS PAPERS, INC.

Bear This in Mind!

KANE Cast Iron Sectional Gas Boilers
are furnished complete for
Hot Water, Steam or Vapor Heating Plants



For hot water, the standard equipment includes metal covered insulated jackets finished in grey and black enamel, draft hood, atmospheric gas burners, motor operated snap action gas control valve, room temperature thermostat with 15-20 day clock, aquastat, thermometer and altitude gauge.

For steam or vapor installation, a vaporstat, safety valve, water column, water gauge and try cocks are used.

Catalog describing KANE Cast Iron Sectional Gas Boilers will be sent upon request

MEARS-KANE-OFELDT, INC.

Manufacturers of

GAS FIRED BOILERS AND WATER HEATERS

1903-1915 EAST HAGERT STREET PHILADELPHIA

Between Ourselves

The man who is so busy that he does not have time to read his trade paper is like the man who was so busy chopping wood that he did not have time to sharpen his axe

TO THOSE WHOSE WORK CALLS THEM to national and state conventions, it may seem as though many months had passed since the first convention report of the year was published in January. True, only six months have actually passed, but convention after convention has been reported in our pages, and it seemed at times as though the convention season was to run on indefinitely. It is rather fitting that the report of the summer meeting of the American Society of Heating and Ventilating Engineers should be the final chapter of the 1927 convention season. This group of serious-minded men always has a good convention, and the meeting this year, which was held at White Sulphur Springs, was no exception to that rule. The report of that interesting meeting is being published in this issue, and is well worth reading to those who are interested in the new developments in the heating and ventilating fields.

SPEAKING OF CONVENtions, an interesting feature of the annual convention number of "Your Weekly" which was published last week, is the number of half-tone illustrations and identified photographs which were included in the convention report. It being the duty of any business paper to illustrate its articles and reports, "Domestic Engineering" always leads the field in this respect. In the issue of July 2, there were 119 illustrations from photographs taken at the Minneapolis convention of the National Association of Master Plumbers. In this large gallery were 834 identified photographs, not counting that of the Past President's Club which needed no identification. Our readers can thus see the picture of at least one out of every five persons who were present at that big convention.

IT IS ALMOST AN IMPOSSIBILITY THESE days to make a call on a master plumber without the conversation at some time or other turning to the ills of the plumbing business. And nearly every man you talk to, tells you that the plumbing business is much worse than others. As a matter of fact, I have found from talking to men in other industries, that the plumbing and heating industry is really much better off than most of the others. Restaurant men, garage owners, bakers, grocers—they all have their grief and woe, and the plumbing business is at least in no worse shape than the others. The oil burner industry has its problems, just as any other, and this week we are publishing an article on "Problems of the Oil Burner Dealer," by C. H. Chalmers, a past president of the American Oil Burner Association. Since so many of the heating contractors who are on our subscription lists have become oil burner dealers, this article is both timely and fitting. Whether you handle oil burners, or are merely contemplating doing so, this article will tell you exactly what it is that the industry as a whole has to contend with.

Do You Know—

1.—How many charter members of the N. A. M. P. are living?

2.—How many states have compulsory ventilation laws?

3.—What factors determine the amount of radiating surface necessary for a building?

4.—Where did the practice of "Certified Heating" originate?

5.—When was the Women's Auxiliary to the N. A. M. P. formed?

6.—What is the purpose of a range boiler tube?

Answers will be found on page 94.

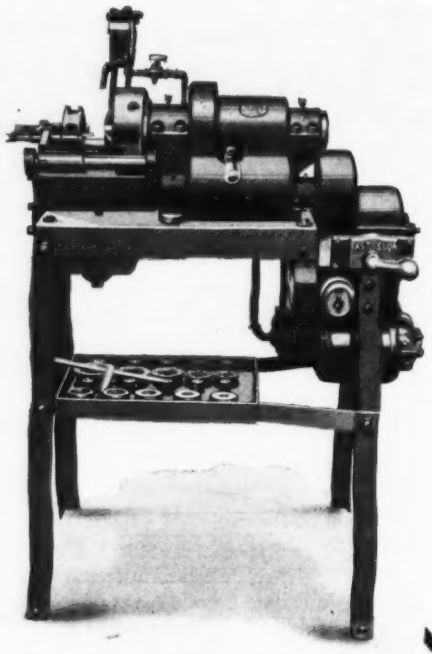
IT HAS BEEN STATED THAT a man can go to one doctor and hear the story that certain foods are harmful to the human constitution, and then go to another doctor and hear that the same food is beneficial. Some people have the feeling that, therefore, doctors do not know what they are talking about. The truth of the matter is that the doctors are working on different theories, which in their essential points may agree, but which in their methods of execution may vary. We have the same bone of contention in our own heating field.

For some time, there have been disagreements as to what degree of efficiency was lost in the use of radiator enclosures. Heating men working on different theories have had entirely different ideas on the subject, and it has been only now that new and important facts have been made public. At the University of Illinois, tests have been made on this question, and the results of these tests are being published this week with the heading "The Effect of Enclosures on Radiator Performance," by A. P. Kratz and M. K. Fahnestock. Incidentally, the Illinois Master Plumbers Association and the National Boiler and Radiator Manufacturers' Association have been largely financing this heating work at the University of Illinois.

Your Editor

OWNERS SAY A

"TOLEDO" No. 1000M



"Is the Finest Production Unit"
"One of the Greatest Labor Savers"
"More Than Paid for Itself"
"The Best Investment We Have"
"The Best Machine in My Shop"

$325.00

(WEST OF ROCKIES $341.25) F. O. B. TOLEDO, O.

Let the man who owns one tell you how a "TOLEDO" No. 1000M pays for itself by the time and labor it saves cutting, threading, and reaming ½ to 2-inch pipe.

No longer is it necessary to waste time cutting and threading small pipe, and now with this new "TOLEDO" you can make use of the bald-headed pieces of pipe that have been accumulating for years, for as one owner says, "the machine *is so easy to operate that our shop boy has been able to take care of it.*"

It is equipped with universal motor that will operate from a lamp socket on any 110-volt current. Oil pump insures constant flow of oil on the dies. Instant change from cutting to threading or vice versa, and but 10 seconds to change from one size of dies to another. It weighs but 460 lbs., is compact, requires but little shop space, and if desired can be taken directly to the job.

Mail us the coupon for further information and copies of these testimonial letters. Let the word of owners convince you.

There is None Better Than Genuine

"TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO

NEW YORK OFFICE: 72 LAFAYETTE ST.

FILL OUT AND MAIL US THE COUPON FOR COMPLETE DETAILS.

I AM INTERESTED IN THE "TOLEDO" No. 1000M

Name .....
Street .....
City .....
State .....
D. E.

DOMESTIC ENGINEERING

Vol. 120, No. 2 Whole No. 1804 — The Plumbing and Heating Weekly — Chicago, Illinois, July 9, 1927

Plumbing on Time

At the recent national convention in Minneapolis, the trade relations committee put the National Association of Master Plumbers on record as being opposed to selling plumbing on the installment plan, in the manner in which it is practiced by other industries. It felt that this method of selling was a matter for the individual to decide. In other words, it did not favor a national time payment plan, representing the plumbing industry as a whole, but merely felt that it was up to the individual master plumber to employ or not to employ such a selling plan.

At the same convention a representative of a commercial trust company spoke in favor of time payment selling as applied to plumbing. This speaker stated that time payments had become an integral part of the system of distribution. He said that the time payment debt of the country was not increasing at a rate which could be called dangerous to business. And he described the home owner, to whom the plumber would sell, as the finest type of time payment risk.

In line with the trade relations committee's recommendation, it seems to us that the master plumber or heating contractor is in a very good position to determine whether time payment selling could be applied to his business. He is established in his community. He knows his customers and prospects, or, at any rate, he can easily find out about them. From them he can choose those who own their own homes, those who have the reputation of meeting their obligations and those who have good positions. Such good risks segregated he can very often make a sale to them by arranging a time payment plan, where it might be impossible if payment in full were demanded.

The individual master plumber or heating contractor, therefore, should at least, we feel, study this method of selling carefully, see what he can do with a bank or finance corporation in his local community and, if such investigation justifies it, be in position to offer the plan to good risks. The chance of not recovering on defaulted notes would certainly be reduced by the careful selection of prospects. The chance of extending his sales opportunities would certainly be increased. A balancing of advantages and disadvantages would tell what to do.

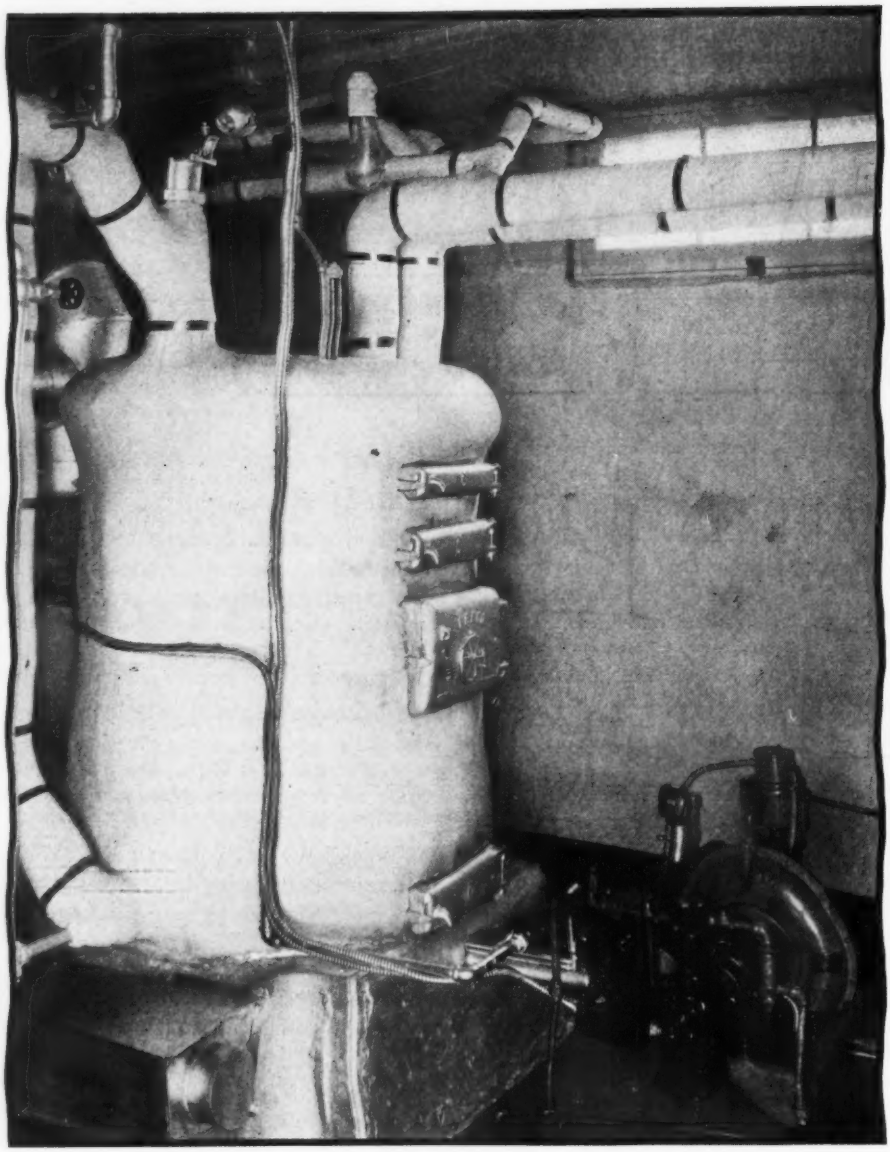
Sales Tactics

Not long ago "Domestic Engineering" devoted its special monthly merchandising section to the subject of merchandising through salesmen. Since then we have had the good fortune or misfortune of learning about a sale of a plumbing system by a salesman of a direct-to-you house. The material was for an overhauling, or remodeling, job. We can call it our good fortune to have heard about it, for, from a cold business standpoint, we had to admire the technique of getting an order. This salesman did not know the first thing about the scientific end of plumbing. He ridiculed, in fact, the idea that the purchaser had to know anything about installation beyond the instructions which his house gave out with the material. He stressed constantly the advantages of the extra equipment and how easy it was to pay for it,—a small amount down and so much a month. The price he charged was higher than that which a licensed master plumber would have asked. The carrying charge he put on for the installment payment was, in our estimation, exorbitant.

We call the transaction a misfortune, not alone because we feel that the purchaser was defrauded but because it represented business lost to the master plumber. In many instances of this sort, the plumber is being outsold. That is one of the reasons why we ran the stories about merchandising through salesmen in a recent issue. Surely the master plumber and heating contractor can employ to advantage certain sales tactics which others are using successfully. And his use of them will not be attended by faulty installations, dangerous to the health of the public. He has so much more to offer than these salesmen for direct-to-you houses that if he went out in real competition to them he could outsell them every time.

Associations Prove Worth

The 1927 convention season for master plumbers closed with the 45th annual convention of the National Association of Master Plumbers, held a couple of weeks ago in Minneapolis. One need only look over the proceedings of the various state conventions and of the national convention to realize what wonderful work trade associations in our field have done this year. They have proved their economic worth.



The home owner will be much better satisfied with a workmanlike installation such as the *one shown above*

Problems of the Oil Burner Dealer

By C. H. CHALMERS

Past President, American Oil Burner Association

I WANT to say a few words about the oil dealer and discuss briefly his part in the general picture of the domestic oil burner situation.

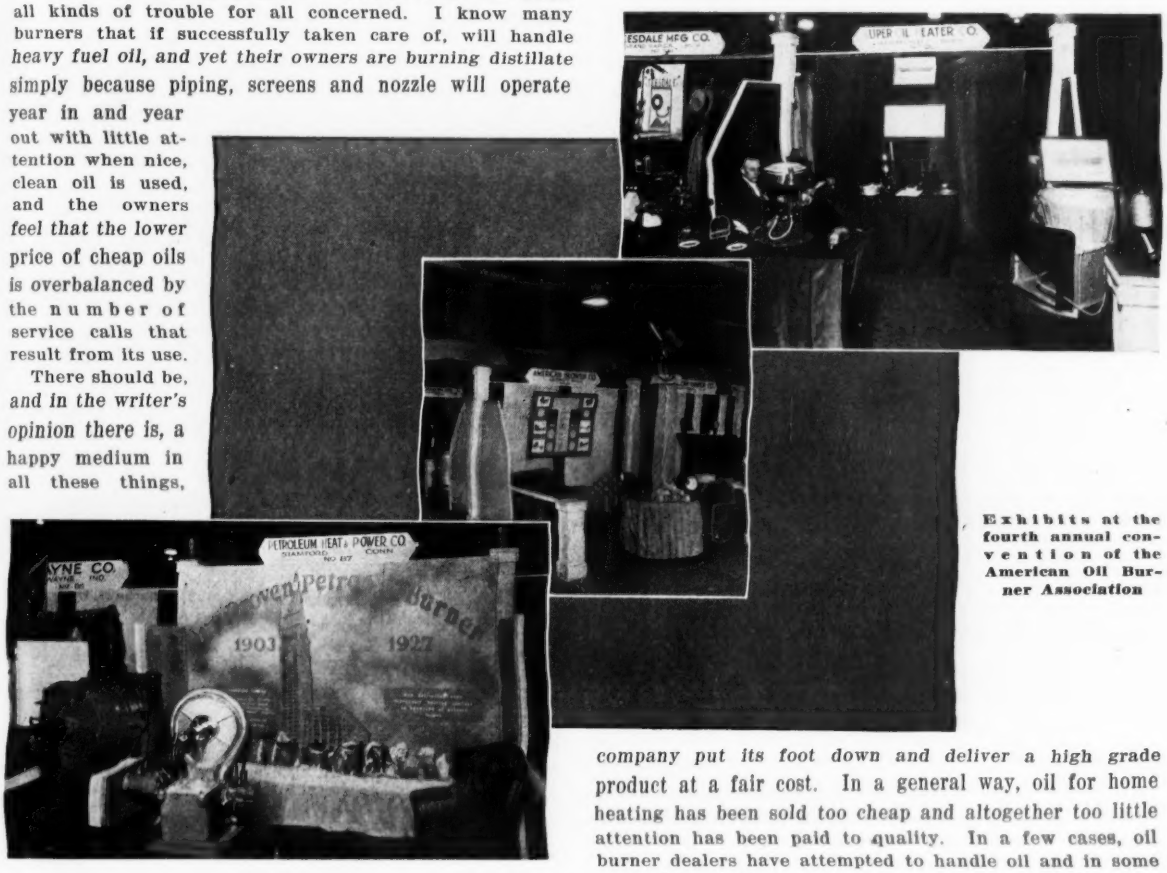
There ought to be very close co-operation between the oil burner dealer and the oil dealer. Generally, I think there is. In many cases, commissions are paid to the oil burner man by the oil dealer for recommending his particular grade of oil. I think this is a "petty graft" that ought to be discouraged for the benefit of all concerned. I believe that the oil burner dealer needs to *win and keep the confidence and best wishes of his customers.* Sooner or later the fact leaks out that the oil burner dealer is getting a commission on the oil and the customer is bound to be more or less displeased. And *some day when a new prospect asks a certain customer* how he likes his burner, the reply will oftentimes fall very short of what it might be if the feeling engendered by the oil commission was not there.

The "golden rule" works pretty well in business, after all. It is an exceedingly good plan for the oil man to get from the burner dealer exact specifications as to the *oil needed for each particular burner. If the burner*

works more satisfactorily on distillate, it will be best for all concerned to say so. If the burner will work on 32-36 gas-oil, it is best for all concerned to say so. If the burner will handle 26 or 28 gravity fuel oil, it is just as well for all concerned to say so.

A good many burners are sold on the proposition that they will burn anything that will flow through a pipe. Many will handle low grades of oil with a fair degree of satisfaction, but the dealer should remember that if he puts his specifications at the last possible point, many times the oil dealer will "go him one better" and he will get into a filthy grade of material that will make all kinds of trouble for all concerned. I know many burners that if successfully taken care of, will handle heavy fuel oil, and yet their owners are burning distillate simply because piping, screens and nozzle will operate year in and year out with little attention when nice, clean oil is used, and the owners feel that the lower price of cheap oils is overbalanced by the number of service calls that result from its use.

There should be, and in the writer's opinion there is, a happy medium in all these things,



Exhibits at the fourth annual convention of the American Oil Burner Association

and I believe if "sweet reasonableness" prevailed, quite an advance could be made over the present situation. It is the better class of American home that buys the oil burner, and such homes do not exist for the sole purpose of saving or making money. The home is the place where we spend money, and where we want comfort, cleanliness, and service. Cheap oils are smelly—in fact, the odor is sometimes so great as to be almost unbearable, and please let no honest person claim that you never get any odor of oil around the premises. No matter how perfect the installation, the smell will come out sometimes if bad oil is used, and in the writer's experience, a good many tank loads of oil have been pumped out of domestic tanks because the little odor that did escape was simply unbearable.

I believe as time goes on, the use of clean oil properly refined will surely be recognized as the only thing fit to be used around the home. I believe that the oil industry is perfectly justified in taking an absolute stand for the clean, refined, standardized oil for home heating, and in charging a price consistent with the production of such a grade.

Oil for domestic use is selling retail at prices ranging from 7 to 10 cents in a general way over the country, and I say without fear of successful contradiction that it would be far better if the price were 2 cents a gallon higher and the quality that much better. The additional 2 cents would give the oil industry a good profit and result in a great satisfaction to the oil industry and everybody concerned. It is an old saying, but a true one, that "Quality is remembered long after the price is forgotten," and there isn't anything today that the oil burner industry needs more than to have the oil company put its foot down and deliver a high grade product at a fair cost. In a general way, oil for home heating has been sold too cheap and altogether too little attention has been paid to quality. In a few cases, oil burner dealers have attempted to handle oil and in some cases this solution seems to have been successful, but in most cases it has not, and personally I do not see any more reason why an oil burner dealer should handle oil than that a man selling boilers for home heating should also sell coal, or that a milk bottle manufacturer should sell milk.

THE HOME OWNER NEEDS THE OIL BURNER

THE MAN who wants to sell oil burners is fortified by many facts that can be explained to prospective customers. The domestic oil burner has certain inherent qualities which commend themselves to the home owner. There are certain basic things about home heating with oil that appeal to the home owner so positively and with such integrity that he cannot fail to recognize them.

I have an oil burner in my home. It has been in operation for five or six seasons, and about half an hour of attention per season takes care of that burner and gives me a uniformly heated home, where it is never too hot and never too cold.

Tell the customer to consider what it means to put in fifteen or twenty tons of coal in his home, the coal dust

(Continued on Page 51)

T. E. B. Campaign Looks to Industry's Expansion

By WALTER J. KOHLER*

Walter J. Kohler

WE believe in the distributing principle of manufacturer - to - jobber to - retailer - to - consumer and for that reason we are here today to advocate an enlarged program of activity of the National Trade Extension Bureau of the plumbing and heating industries.

There are four outstanding features involved in the distribution of goods in our great industry today.

1. A great available undeveloped market for plumbing and heating supplies.

2. The competition by industries nationally organized and with intensive retail sales methods to get the consumer's dollar. There are over one hundred of these national organizations today.

3. The rapid growth of direct to consumer houses in this business.

4. The necessity of assisting in every way our retail distributor, the plumbing and heating contractor, to become a more active agency in competition with the retailer of other merchandise.

The Undeveloped Market

The large undeveloped market for plumbing and heating may be classified as follows:

1. The cities having water and sewer facilities but with many homes inadequately equipped or wholly unequipped with plumbing and heating fixtures.

2. The small towns having no water or sewer facilities.

3. Farm homes.

Mrs. John D. Sherman, President, General Federation of Women's Clubs, has told you of the survey of homes made by the Federation in 1925 and 1926 throughout the 48 states of the Union. This survey revealed astonishing facts and showed us that hundreds of thousands of homes in cities having water and sewer facilities are inadequately equipped or wholly unequipped with what we consider essential sanitary and labor saving conveniences.

It showed 8,500 incorporated towns which are without public sewer systems, and approximately 4,000 incorporated towns under 5,000 population which have no public water supply.

It gave indication of the millions of farm homes which have no adequate plumbing and heating facilities.

The former Wisconsin commissioner of agriculture, John D. Jones, Jr., in a recent address stated that to equip the 150,000 farm homes in that state with modern conveniences such as running water, electricity and heating plants would cost 300 million dollars.

This is an index of the nation's need for our products.

These markets cannot all be reached immediately, but the plumbing and heating industries should be prepared to develop the field with a competent organization and continued effort to build up this business at a far more rapid rate than has heretofore been done.

Most of these homes also need central heating of some kind, for you can't have running water in the home without suitable temperatures to prevent freezing, at least in territories subject periodically to low temperature.

Heretofore, the plumbing and heating industry has been sustained largely by new construction of homes, apartments, hotels, and other buildings. Residential construction so far this year is on the decline as indicated by the charts of the F. W. Dodge Corporation. With large surplus manufacturing facilities and the jobbing and retail division of our industry expanded to meet the apparently pressing demands of our recent building boom, it behooves us all to take cognizance of the present conditions and to work out co-operatively some plan to prevent an utter demoralization of our business for the next few years.

The logical and sensible thing for us to do is to study this situation in a thorough business-like manner in the endeavor to reach this undeveloped market available to plumbing and heating industries.

Every product has a replacement life, represented by the length of time it gives suitable satisfaction in service of utility or style. The automobile life has been accepted generally as 5 years, although some last longer and many a shorter time. Clothing lasts from six months to several years, depending upon the inclination, pocketbook, and social interests of the wearer. Homes in this country of rapid changes last from one to several generations. In Europe they last for many generations. One can go on indefinitely citing examples of commodities periodically replaced for utility purposes, but more often for style demands.

The history of the bath as it is manufactured today is a short one, but, judging from the replacements to date, its life is eternal. When one considers that the modern double-shell built-in bath was only designed 13 years ago and marketed in very small quantities during its early days, and that approximately half of the homes of the country are wholly unequipped with a stationary bathtub, we should take heart and visualize the market, that is still available to us for the initial or replacement installations in homes already built. A similar condition applies to lavatories, flush toilets, bathroom supplies, and kitchen sinks and heating equipment.

The heating industry has probably not the same replacement pride appeal, but it does have a shorter life, because of its strenuous use and it has a replacement economy appeal due to the more efficient operating units developed periodically by the research departments of the heating manufacturers.

(Continued on page 65)

*Paper read before the forty-fifth annual convention of the National Association of Master Plumbers, at Minneapolis, Minn., by Walter J. Kohler, president of Kohler Co., Kohler, Wis. Mr. Kohler is chairman of the Manufacturers' Committee of the National Trade Extension Bureau.

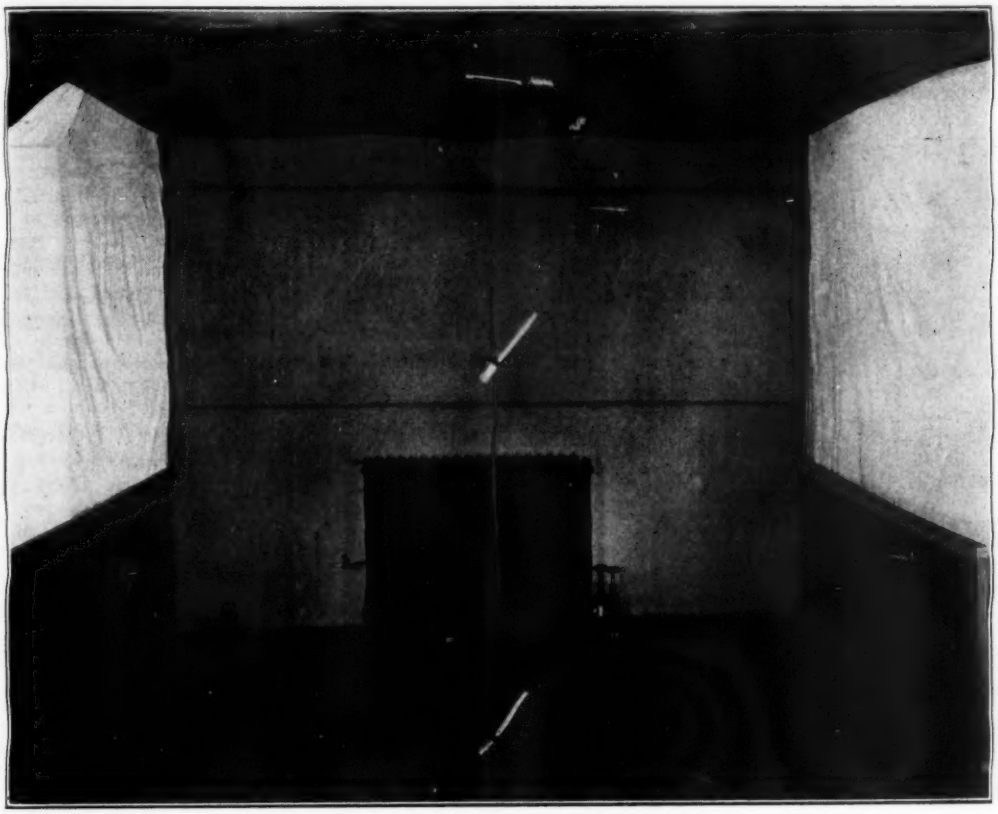


Fig. 1.—Bare radiator in test booth

The Effect of Enclosures on Radiator Performance

By A. P. KRATZ *and* M. K. FAHNESTOCK

Research Professor
University of Illinois

Special Research Assistant
University of Illinois

THE data presented in this paper were obtained incidental to an investigation being conducted by the *Engineering Experiment Station* of the University of Illinois, of which M. S. Ketchum, dean of the College of Engineering, is director, in co-operation with the Illinois Master Plumbers' Association and the National Boiler and Radiator Manufacturers' Association, under the supervision of A. C. Willard, professor of heating and ventilation and head of the department of mechanical engineering. This paper constitutes a *partial summary* of results which are to be presented in complete form in Bulletin No. 169 entitled Effect of Enclosures on Direct Steam Radiator Performance, of the Engineering Experiment Station.

The object of this particular phase of the investigation was to determine the effect of various types of radiator enclosures and shields on the steam condensing capacity of a radiator, in comparison with the capacity of the unenclosed radiator.

*Presented at Semi-Annual Meeting of the American Society of Heating and Ventilating Engineers, White Sulphur Springs, W. Va., June, 1927.

Testing Apparatus and Procedure

The radiator used for these tests was a 20-section, 38-inch, 3-column, c. i. water-type radiator having a nominal area of 100 sq. ft. The surface was brushed and painted (not dipped) with two coats of flat black paint. This radiator was set on the main laboratory floor and partly surrounded by the test booth shown in Figs. 1, 2 and 3. The back of the booth was placed 2½ inches from the radiator, and, together with the sides, served to shield the latter from transverse air currents. The top served to direct the vertical air currents approximately the same as the ceiling of a room. The whole inside of the booth presented surfaces similar to papered walls for receiving radiation. These conditions, while not exactly duplicating those of actual service where the radiator is set under a window which is in an exposed wall, did duplicate standard conditions under which practically all radiator tests have been conducted, and certainly afforded means of obtaining valid comparative results.

The steam was passed through a separator to remove all entrained moisture, and entered the lower tapping of the radiator through a 2-inch connection. The condensate

left the radiator through this same connection, and was collected in a receiver having a gage glass. Both separator and receiver were placed in the basement below the main laboratory floor, and a glass section was installed in the vertical riser to the radiator. By this means the flow of condensate could be observed in order to insure that the critical velocity was never exceeded, and that no condensate was carried back into the radiator. This arrangement had the further advantage that, since the condensate leaving the radiator had no chance to accumulate at one end and was always in intimate contact with live steam, the temperature of the condensate was unquestionably the same as that of the steam. To the extent of the writer's knowledge, this is the first time that this particular arrangement, which has proved unusually satisfactory, has been used, or reported on, in connection with radiator tests. The radiator was vented with a ¼-inch pipe and valve, and any accumulation of air was removed before starting a test. All thermometers were shielded to protect them against the effect of direct radiation.

A. P. Kratz

During a test the steam pressure was maintained constant by a combination of an automatic pressure reducing valve and a manuel throttle valve, and a constant water level was maintained in the receiver. In all cases the temperature of the steam in the radiator was 216 deg. Fahr. The condensate was weighed every 10 minutes and no test was accepted that showed a variation of more than 2½ per cent in the successive increments of weight. An hour was considered as sufficient for the duration of a test when such evidence of constancy of conditions was presented.

No commercial enclosures were used, but all enclosures were constructed so as to be adapted to limiting the effect to the particular factor being studied, and at the same time to avoid presenting features that were commercially impossible. All enclosures were painted inside and outside with two coats of flat black paint, and in all cases there was a clearance of 2½ inches between the back of the radiator and the back of the enclosure, and of 1 inch between the radiator and enclosure at the front. The end clearances were 8 inches and 4 inches. The effects of height and of sizes and types of openings were determined with enclosures having the sides and ends made of solid sheet iron. One of these is shown in Fig. 2, which also shows the arrangement made for extending the height. The various arrangements of the enclosures are shown corresponding to the curves in Figs. 4 to 8. An enclosure with grilled front and ends is shown in Fig. 3. Several constructions of grille work were used, having different free areas of openings.

PERFORMANCE OF THE UNENCLOSED RADIATOR

IN ALL cases the performance was defined by a curve having room temperature at breathing line as abscissae and net pounds of steam condensed in radiator per hour as ordinates. On each of the curve sheets shown in Figs. 4, 5, 7 and 8, the performance of the unenclosed radiator is shown as a base curve for the purpose of mak-

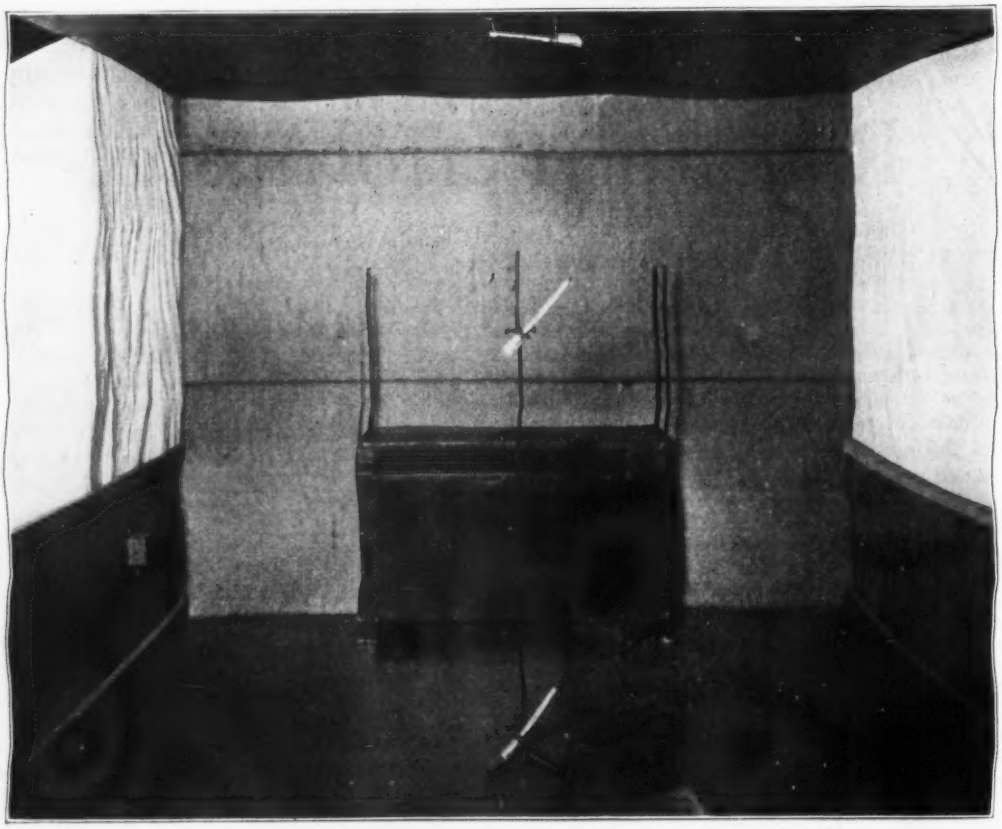


Fig. 2.—Enclosure with solid front, top and ends

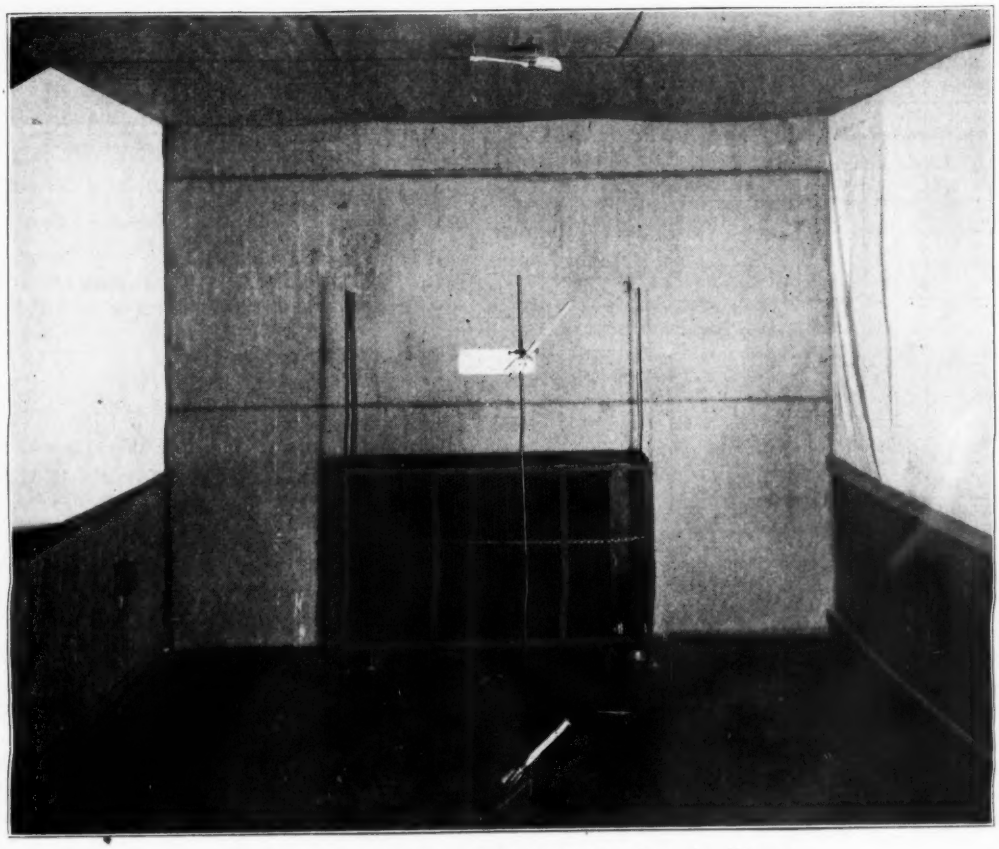


Fig. 3.—Enclosure with grilled front and ends, and solid top

ing comparisons, and all such comparisons are made with a room temperature of 80 deg. Fahr. at the breathing line. The curves for the unenclosed radiator in Figs. 7 and 8 were transferred directly from the ones in Figs. 4 and 5 on which the experimental points are shown.

It may be noted from Fig. 7, Curve 2, that at a room temperature of 70 deg. Fahr. at the breathing line, and with steam at 216 deg. Fahr., the unenclosed radiator condensed 24.25 lb. of steam per hour. Using a value of 969.3 B.t.u., taken from *Goodenough's Steam Tables*, as the latent heat of steam, this weight represents a total heat transmission of 23,500 B.t.u. per hour. Since the temperature difference from steam to air is 146 deg. Fahr., a value of K_{70}=1.610 is obtained, where K_{70} is the co-efficient of heat transmission, or the heat transmitted per square foot of radiation per degree temperature difference per hour.

Reference to the table on page 37, of the American Society of Heating and Ventilating Engineers Guide 1926-27, indicates that the rating of a 20-section, 38-inch, 3-column radiator with steam at 215 deg. Fahr. and air at 70 deg. Fahr. is 21,990 B.t.u. per hour. From the table on page 42, of the same book, a correction factor of 0.993 may be obtained by interpolation. Making use of this factor, the 21,990 B.t.u. per hour may be corrected to terms of steam at 216 deg. Fahr. and air at 70 deg. Fahr. If this is done, a value of 22,140 B.t.u. per hour is obtained, and for the temperature difference 146 deg. Fahr., K_{70}=1.517. Comparing this with the 1.610 obtained from the curve in Fig. 7, a difference of 6.0 per cent is indicated. This is considered satisfactory agreement, particularly since the radiator tested was painted flat black, which would have a tendency to increase the heat transmission over that for an enameled or bare radiator.

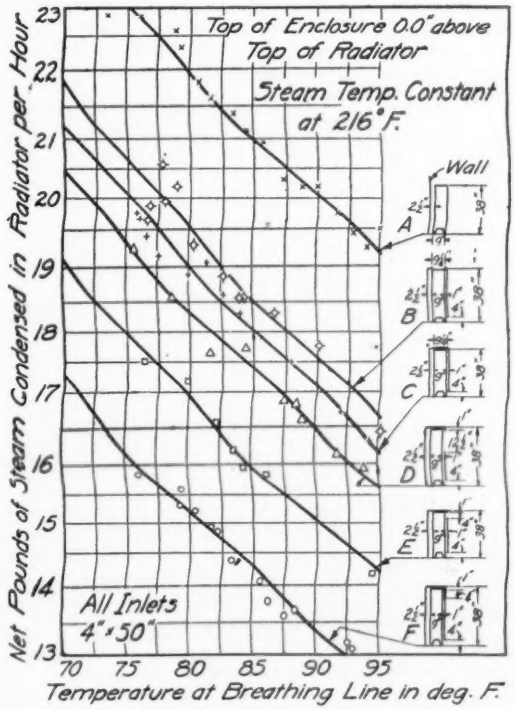


Fig. 4.—Performance curves for various outlets

Several rules have been proposed for correcting the heat transmission, or the coefficient, K, to terms of a tem-

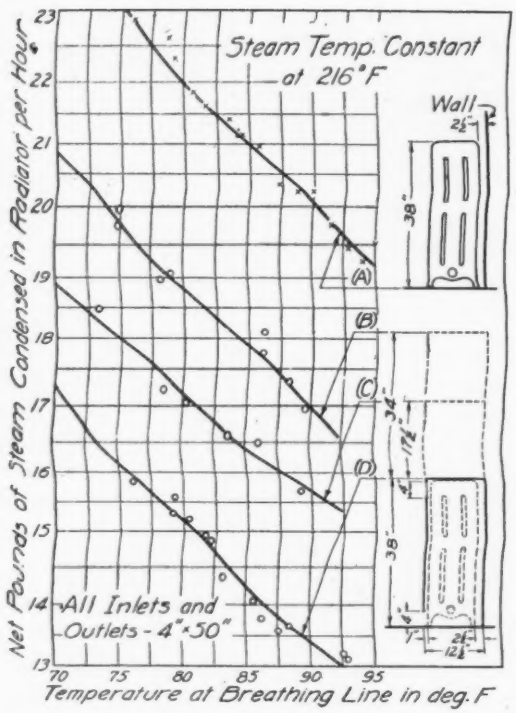


Fig. 5.—Performance curves for various heights of enclosures

perature range deviating from the standard range of 145 deg. Fahr. One proposed by Charles A. Fuller is that K, the coefficient of heat transmission varies by 0.2 per cent per degree above or below the standard range. In order to examine the application of this rule to the data obtained in the tests reported in this paper, the value $K_{70} = 1.610$, with a temperature range of from 216 deg. Fahr. to 70 deg. Fahr., was chosen as a base. This was then corrected to several temperature ranges by applying the 0.2 per cent rule, and the results compared with those obtained by direct calculation from the curve for the unenclosed radiator shown in Fig. 7. The results are given in Table 1.

From the table it may be noted that the corrected values of the coefficient, K, agree within 1 per cent with those obtained by direct calculation from Curve 2 in Fig. 7.

Over the temperature range and at the actual temperatures used, the 0.2 per cent rule, therefore, seems to be well adapted to the data obtained. A second rule, proposed by Dr. Dietz, is that the total heat transmission varies as the 1.3 power of the temperature range. That is:

$$H = W_s r_s \left(\frac{t_{1a} - t_{2a}}{t_{1s} - t_{2s}}\right)^{1.3}$$

where H = Total heat transmission, B.t.u. per hr.
W_s = Weight of steam condensed at standard range, lb.
r_s = Latent heat of steam at standard steam temperature, deg. Fahr.
t_{1a} = Actual steam temperature, deg. Fahr.
t_{2a} = Actual room temperature, deg. Fahr.
t_{1s} = Standard steam temperature, deg. Fahr.
t_{2s} = Standard room temperature, deg. Fahr.

In order to compare the results of the application of these two rules to the actual test data, the following values have been calculated for the heat transmission at a room temperature of 80 deg. Fahr. with steam at 216 deg. Fahr.

Table 1.—Heat transmission coefficients for various temperature ranges

Room Temp. Deg. F.	Steam Temp. Deg. F.	Temp. Range Deg. F.	Coefficient, K Calculated from Curve Fig. 7	Corrected from Base Value 1.610	Difference	Per Cent Difference
70	216	146	1.610	1.610	0.000	0.000
75	216	141	1.584	1.584	0.000	0.000
80	216	136	1.563	1.578	+0.015	0.959
85	216	131	1.546	1.562	+0.016	1.035
90	216	126	1.542	1.546	+0.004	0.259

(1) From the curve in Fig. 7:
$H_{80} = 21.93 \times 969.3 = 21{,}250$ B.t.u. per hour
(2) From the coefficient K, corrected by the 0.2 per cent rule:
$H_{80} = 100 \times 1.578\ (216 - 80) = 21{,}460$ B.t.u. per hour.
(3) From the exponential rule:

$$H_{80} = 24.25 \times 969.3 \left(\frac{216 - 80}{216 - 70}\right)^{1.3} = 21{,}450 \text{ B.t.u. per hour.}$$

From this it may be seen that the agreement between the two rules is very close and that both rules are applicable to the test data within 1 per cent, over the temperature range actually used in these tests.

EFFECT OF CHARACTER OF AIR OUTLET

THE results of a series of tests run for the purpose of determining the effect of the location, size, and type of the air outlet in the enclosure are shown in Fig. 4. The comparative data are based upon the performance of the enclosures with the temperature of the steam in the radiator at 216 deg. Fahr. and the temperature at the breathing line at 80 deg. Fahr. These data are tabulated in Fig. 9 under enclosures Nos. 1 to 5. In all cases the top of the enclosure practically touched the top of the radiator, and the air inlet consisted of a 4-inch by 50-inch open slot at the bottom of the front of the enclosure. The best combination in this series was obtained with a 9¼-inch by 50-inch opening in the top of the enclosure. The area of the outlet was 462.5 sq. inches compared with 200 sq. inches for the inlet. The performance of this combination is shown in Curve *B*, Fig. 4, and the relative capacity was 89.1 per cent, using the steam condensing capacity

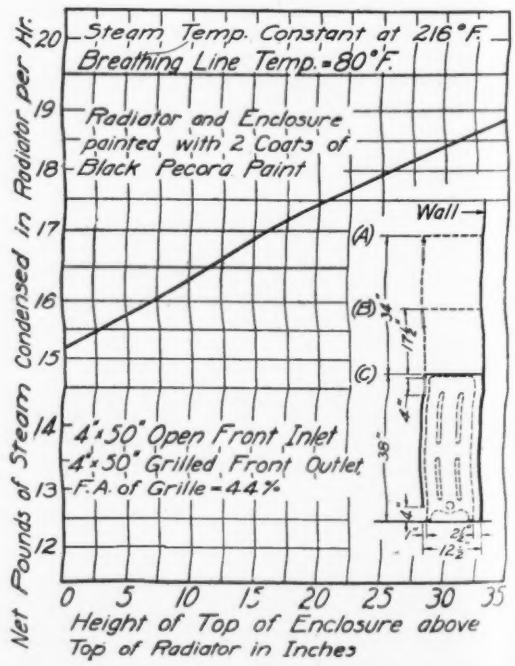

Steam Temp. Constant at 216°F.
Breathing Line Temp. = 80°F.
Radiator and Enclosure painted with 2 Coats of Black Pecora Paint
Wall
(A)
(B)
(C)
4" x 50" Open Front Inlet
4" x 50" Grilled Front Outlet
F.A. of Grille = 44%
Net Pounds of Steam Condensed in Radiator per Hr.
Height of Top of Enclosure above Top of Radiator in Inches

Fig. 6.—Effect of height of enclosure on steam condensed

of the unenclosed radiator at 80 deg. Fahr. room temperature at the breathing line as a base. A grille, having a ratio of free to gross area of 44 per cent, or a total free area of 209.4 sq. inches, was then placed in the outlet and

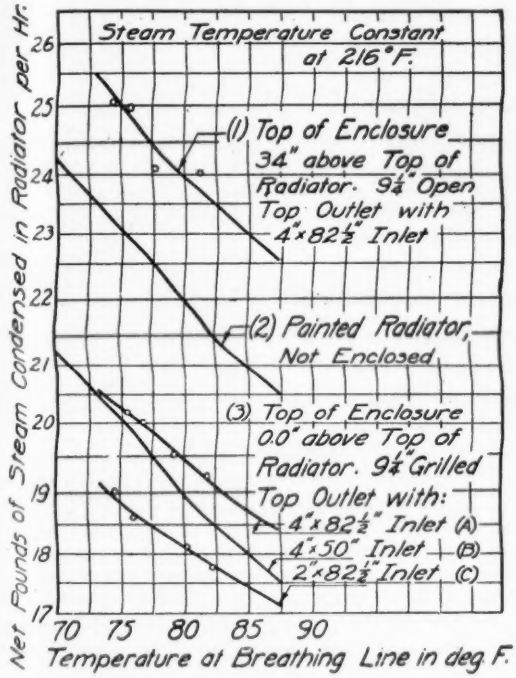

Steam Temperature Constant at 216° F.
(1) Top of Enclosure 34" above Top of Radiator. 9¼" Open Top Outlet with 4"×82½" Inlet
(2) Painted Radiator, Not Enclosed
(3) Top of Enclosure 0.0" above Top of Radiator. 9¼" Grilled Top Outlet with:
4"×82½" Inlet (A)
4"×50" Inlet (B)
2"×82½" Inlet (C)
Net Pounds of Steam Condensed in Radiator per Hr.
Temperature at Breathing Line in deg. F.
26
25
24
23
22
21
20
19
18
17
70 75 80 85 90

Fig. 7.—Performance curves for various inlets

the performance is shown in Curve *C*. The relative capacity was reduced to 86.5 per cent. Hence, adding the grille reduced the performance of the same enclosure 2.9 per cent.

Curve *D* shows the performance when a 12½-inch by 50-inch outlet having an area of 625.0 sq. inches was used at the top of the front of the enclosure. The relative capacity of this combination was 83.5 per cent. When the area of this outlet was reduced to 4 inches by 50 inches, or 200 sq. inches, as shown by Curve *E*, the relative capacity was reduced to 77.0 per cent. The addition of a grille, see Curve *F*, reduced the relative capacity to 69.2 per cent. In this case the effect of the grille on the same combination was to reduce the performance 10.1 per cent.

RESULTS OF TESTS

FROM these results it is apparent that the use of an enclosure materially affects the performance of a radiator, and that the use of a front outlet, even with a comparatively large area, is less advantageous than the use of a top outlet. A grille causes more serious reduction when used with a front outlet than with a top outlet.

EFFECT OF HEIGHT OF ENCLOSURE

FIG. 5 shows the results of a series of tests run with three different heights of enclosures—namely, 38 inches, 55½ inches and 72 inches. In each case the enclosure had solid ends and front, a 4-inch by 50-inch open inlet at the bottom of the front and a 4-inch by 50-inch grilled front outlet. The relative capacity for the 38-inch height, as shown by Curve *D*, Fig. 5, was 69.2 per cent. That for the 55½-inch height was 78.3 per cent, and for the 72-inch height was 85.6 per cent. These results are shown in slightly different form in Fig. 6 in order to permit interpolation for heights other than the ones tested. This curve indicates that the height increases faster than the resulting increase in performance. The relative capacities based on a breathing line temperature of 80 deg. Fahr. are also shown in Fig. 9, enclosures number 5, 6 and 7.

The performance of an enclosed radiator is appreciably increased by increasing the height of the enclosure, but even with the seventy-two-inch height of the enclosure, the performance was not as great as that for the unenclosed radiator.

EFFECT OF SIZE OF AIR INLET

IN FIG. 7, the lower three Curves, 3*A*, 3*B* and 3*C*, show the effect of changing the size of inlet to the enclosure. In all three cases the enclosure with solid ends and front, and a 9¼-inch by 50-inch grilled outlet, was used. This outlet had a total free area of 209.4 sq. inches. Three inlets were used. The first was 4 inches by 82½ inches, and had an area of 330 sq. inches and a total perimeter of

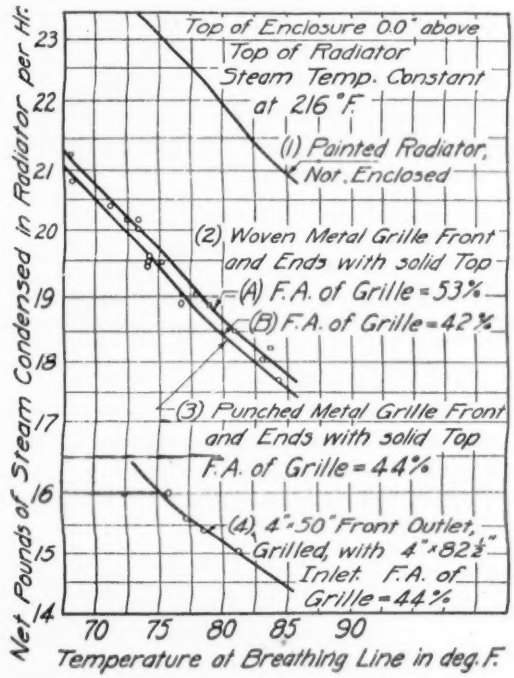

Top of Enclosure 0.0" above Top of Radiator
Steam Temp. Constant at 216° F.
(1) Painted Radiator, Not Enclosed
(2) Woven Metal Grille Front and Ends with Solid Top
(A) F.A. of Grille = 53%
(B) F.A. of Grille = 42%
(3) Punched Metal Grille Front and Ends with Solid Top
F.A. of Grille = 44%
(4) 4"×50" Front Outlet, Grilled, with 4"×82½" Inlet. F.A. of Grille = 44%
Net Pounds of Steam Condensed in Radiator per Hr.
Temperature at Breathing Line in deg. F.
23
22
21
20
19
18
17
16
15
14
70 75 80 85 90

Fig. 8.—Performance curves for grilled enclosures

189 inches. The second was 4 inches by 50 inches, with an area of 200 sq. inches and a perimeter of 108 inches, while the third was 2 inches by 82½ inches, with an area of 165 sq. inches and a perimeter of 177 inches. Since the outlet was always the same, the inlet was the determining factor and the relative capacities obtained with a breathing line temperature of 80 deg. Fahr. as shown in Fig. 9, enclosures 8, 2 and 9, were 88.6 per cent, 86.5 per cent and 82.5 per cent, respectively. It may be noted that these relative capacities were in the order of the areas of inlet with the maximum relative capacity corresponding to the maximum area. It may also be noted that the slope of the curve for the enclosure with the 4-inch by 50-inch inlet was greater than that for the ones with the 4-inch by 82½-inch and the 2-inch by 82½-inch inlets, which had practically the same slope. The following may serve as a possible explanation for this peculiarity.

The difference in performance for the three enclosures is undoubtedly caused by difference in the frictional resistances of the inlets. The expression for head lost due to friction is of the form:

Enclosure Number	Description of Enclosure: Height of Top of Enclosure Above Top of Radiator	Inlet	Outlet	Free Area of Inlet sq. in.	Free Area of Outlet sq. in.	Net Pounds of Steam Condensed in Radiator per Hour	Relative Condensing Capacity Percent	Enclosure Number
	Radiator not enclosed—Painted (not dipped) with two coats of black Pacora paint					21.83	100.0	
1	00"	4"×50" Across front	9½"×50" Open top	200.0	462.5	19.33	89.1	1
2	00"	4"×50" Across front	9½"×50" Grilled top	200.0	209.4	18.98	86.5	2
3	00"	4"×50" Across front	12½"×50" Open front	200.0	625.0	18.31	83.5	3
4	00"	4"×50" Across front	4"×50" Open front	200.0	200.0	16.89	77.0	4
5	00"	4"×50" Across front	4"×50" Grilled front	200.0	92.1	13.17	69.2	5
6	17½"	4"×50" Across front	4"×50" Grilled front	200.0	92.1	17.15	78.3	6
7	34"	4"×50" Across front	4"×50" Grilled front	200.0	92.1	18.77	85.6	7
8	00"	4"×82½" Across front and ends	9½"×50" Grilled top	330.0	209.4	19.43	88.5	8
9	00"	2"×82½" Across front and ends	9½"×50" Grilled top	165.0	209.4	18.09	82.5	9
10	34"	4"×82½" Across front and ends	9½"×50" Open top	330.0	462.5	23.92	109.1	10
11	00"	4"×82½" Across front and ends	4"×50" Grilled front	330.0	92.1	15.17	69.2	11
12	00"	Punched metal grille front and ends, solid top. Grillework beginning 4" above floor. F.A. of grille = 44%				18.47	84.2	12
13	00"	Woven metal grille front and ends, solid top. Grillework beginning 4" above floor. F.A. of grille = 53%				18.74	85.5	13
14	00"	Same as (13) with F.A. of Grille = 42%				18.47	84.2	14

Note: 20 Section, 38"-3 Column, (direct) C. I. Weber Type Radiator used in all tests.

Note: Steam Temperature constant at 215°F. Breathing Line Temperature = 80°F.

Fig. 9.—Tabulation of the performance of fourteen radiator enclosures

$$h = f\frac{V^2LP}{2gA}$$

where h = the head lost in feet of fluid flowing,
f = the coefficient of friction,
V = the velocity in feet per second,
L = the length of duct (or thickness of plate in this case) in ft.,
P = the perimeter in ft.,
A = the area in sq. ft., and
g = the acceleration of gravity = 32.2 ft. per second.

Assuming the same motive head, or temperature difference between air and steam, the area of the inlet orifice would determine the actual velocity through the inlet. As the area increased the velocity would decrease. Since the head lost varies as V^2P/A and the fraction V^2/A would decrease at a greater rate than P, it is reasonable to presume that V^2P/A, and hence the friction loss, h, would decrease as A is increased. Therefore, A would be the factor that determines the relative positions of the three curves under discussion. This reasoning is substantiated by the fact that the maximum relative capacity was obtained with the maximum area of inlet and the other relative capacities were also in the same order as the inlet areas.

In considering any one curve alone it is evident that since A is constant, the head lost varies as V^2P. As the room temperature decreases, the available motive head, and hence the velocity, increases, and the condensation becomes greater. But the product V^2P also increases with the velocity, thus tending to increase the head lost and to reduce the condensation over what would be obtained if friction did not exist. Therefore, the product V^2P determines the slope of the curves, and the smaller slopes correspond to the greater values of V^2P. It is evident that if P is large, the slope will be small. This reasoning is also substantiated by the curves, since the 4-inch by 50-inch inlet with a perimeter of 108 inches gave a curve having the greatest slope, while the two others with perimeters of 189 inches and 177 inches respectively, gave curves with practically the same slopes, and less than that for the 4-inch by 50-inch inlet.

Curve 1, in Fig. 7, was obtained by using the best combination of inlet and outlet with an enclosure 72 inches in height. This curve demonstrates that, by using the most advantageous combination of factors it is possible to increase the steam condensing capacity of an enclosed radiator above that of the same radiator unenclosed. The relative capacity in this case, expressed with the performance of the unenclosed radiator as a base was 109.1 per cent, as indicated under enclosure No. 10, Fig. 9.

EFFECT OF GRILLED CONSTRUCTION

THE curves in Fig. 8, and the tabulated values for enclosures Nos. 11, 12, 13 and 14, in Fig. 9, show the effect of enclosing the radiator with enclosures having full grilled construction for front and ends. Curve 4 was obtained with an enclosure having solid front, ends and top, and a 4-inch by 50-inch grilled outlet at the top of the front. The inlet was 4 inches by 82½ inches. With this arrangement a relative capacity of 69.2 was obtained. An enclosure having the same inlet, but having a solid top, and front and ends covered with a grille of punched metal having a ratio of free to gross area of 44 per cent was then used. These results are shown by Curve 3, and a relative capacity of 84.2 per cent was obtained. The substitution of woven metal grille with free area of 42 per cent for the punched metal grille gave the same results as indicated by Curve 2B which coincided with Curve 3. By using this same construction with a woven metal grille having a ratio of free to gross area of 53 per cent the relative capacity was increased to 85.5 per cent. These last three enclosures were very close approximations to the usual type of commercial enclosures, and while some improvement over the types having solid front and sides with slotted inlets and outlets was indicated, it is evident that any enclosure, unless extended to a considerable height above the top of the radiator, will reduce the condensation that would normally be expected from the bare radiator.

PROPOSED METHODS FOR FUTURE INVESTIGATIONS

IT IS realized that the results from such a laboratory study of the performance of radiators and enclosures can only be comparative. Certain problems, as, for instance, the absolute performance of the radiators under service conditions, and a determination of the distribution of heat in the room, can only be studied by installing the

(Continued on Page 80)

Discuss Research at A. S. H. V. E. Meeting

Engineers Hold Big Summer Meeting

A typical scene on one of the three golf courses on which members of the American Society of Heating and Ventilating Engineers played during the mid-summer meeting at White Sulphur Springs

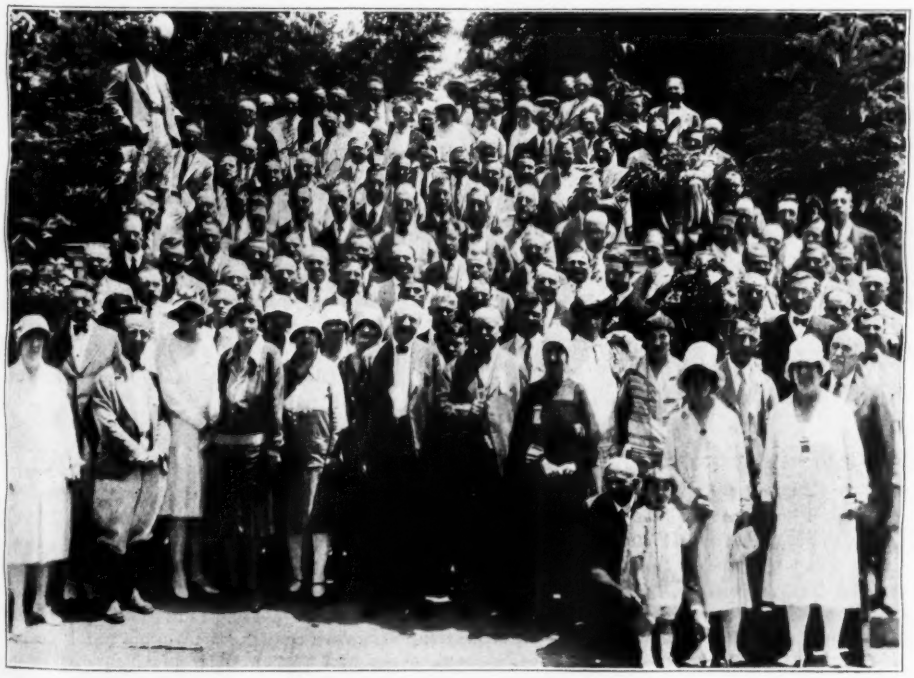
AT THE thirty-third mid-summer meeting of the American Society of Heating and Ventilating Engineers, held at White Sulphur Springs, W. Va., June 28, 29 and 30, another step was made toward a method for rating boilers, something was learned about the ventilation of garages, additional data was made available relative to house insulation, a code was proposed for testing insulation, charts were presented on the heating performance of a new type of what is popularly termed copper radiation, information was given to the society on the effect of enclosures on radiator performance, there were presented results of studies on infiltration at windows, pipe sizes in steam and hot water systems were considered, the tests of window and mechanical ventilation at Rochester, N. Y., were reported upon, a report was submitted by a committee on temperature, humidity and air motion, heat transfer in tubular water heaters was considered, the fundamental principles of unit ventilation and their application were presented, how air turbulence affects efficiency of hot blast systems was discussed, a code for testing air filters was presented, a movement to coordinate heating and ventilating research throughout the country was developed and given the backing of the society, and, last but not least, Prof. A. C. Willard, head of the engineering experiment station, University of Illinois, Urbana, Ill., is to be the next president, following the able administration of Dean F. Paul Anderson, retiring president. The other officers are Thornton Lewis, Philadelphia, first vice president; L. A. Harding, Buffalo, N. Y., second vice president; Walter E. Gillham of Kansas City, treasurer. A. V. Hutchinson continues as secretary.

One hundred and ninety-six registered at the convention. The next meeting is to be held in New York City.

Petitioned by wire to accept the office of second vice president, L. A. Harding at first refused. The matter was taken before the society by the nominating committee, when the society went on record by a unanimous standing vote to urge Mr. Harding again as a society to accept the office. Other telegrams and telephone messages were sent, with the result that Mr. Harding accepted. "We have no man in this industry," said Dean Anderson, "who has done a greater service to science of heating and ventilating than this distinguished gentleman.

CODE FOR RATING BOILERS

ACCORDING to the opinions of many of the members, the most forward step made at the convention was the endorsement of a code for rating boilers. The code



Group of Heating and Ventilating Engineers at White Sulphur Springs Meeting

shall be endorsed, the resolution read, "in principle as a preliminary code with the understanding that the details will, with the records of the discussion, be studied and revised by the boiler code committee for final presentation at the annual meeting next January."

REPORT OF BOILER RATING COMMITTEE

THE report of Alfred Kellogg of Boston, chairman of the boiler rating committee, was presented by Samuel R. Lewis. The subject of boiler ratings has been under discussion for many years—no one seems to remember just how long. Such an undertaking seems to be simple—all were agreed upon that; but, nevertheless, how to devise a boiler "yardstick" that is convenient and easily understood has intrigued the A. S. H. V. E., the H. P. C. N. A. and makers of low pressure heating boilers and others for many years. The Heating and Piping Contractors' National Association took definite action at their 1927 meeting. Now the American Society of Heating and Ventilating Engineers has started what will evidently develop into something definite at the next meeting. All are not agreed upon the merits of the method for testing boilers that the committee recommended. The matter was discussed pro and con for some time. Among the notables who discussed the question were Homer R. Linn, chief engineer, western executive offices of the American Radiator Co., Chicago; E. K. Campbell, Kansas City; F. W. Herendeen, secretary of the National Boiler and Radiator Manufacturers' Association; Wm. N. McIntyre, Kansas City; Harry M. Hart, Chicago; W. H. Driscoll, Jersey City; Percy Nicholls, U. S. Bureau of Mines, Pittsburgh, and John D. Cassell, Philadelphia, who summed up the attitude of the sponsors of the proposed code when he said: "Does it make so much difference what particular method we adopt so long as we use some intelligent method? If we must consider all the variables, we will never see a code adopted. I think we should adopt the boiler code. We can change it if it is wrong, but at least let us start."

Percy Nicholls, inventor of the Nicholls heat meter, spoke of the rating of motors, stating that it was easy to pick out an electric motor as each motor was rated in horse power.

The rating of low pressure steam and hot water heating boilers has for years been a subject of great interest to manufacturers as well as to engineers and many conferences have been held. Boiler manufacturers, heating contractors and engineers have studied the subject for years without effecting an agreement between the many interests involved.

In March, 1926, the United States Bureau of Mines suggested to the society the advisability of appointing a committee to review the work of the previous committees and, if possible, suggest a solution satisfactory to all concerned, keeping in mind, however, that the party having the most vital interest is the ultimate consumer, the public.

The report outlined the classification of heating boilers for purposes of rating, the purposes of the code, priming limitations, flue gas temperature limitation, CO and CO_2 limitations, fuels for standard rating, etc.

CODE FOR TESTING BUILDING MATERIALS

A REPORT of the committee on a code for testing the heat transmission through building materials was presented by Prof. A. P. Kratz of the University of Illinois. There is probably nothing in the heating industry that has created more confusion than the lack of reliable data on this subject. There are differences in reports of tests from various laboratories on account of different methods of testing. The code provides for either the hot-plate or hot-box method. In the hot-plate method, the material to be tested is put between two metal plates. In the hot-box method, two boxes are used, one inside the other, one side of the inner box being made of the insulating material. By manipulating the temperatures inside the inside box and in the space between the two boxes, the rate of heat flow may be measured. When the code for testing is adopted by the society, laboratories may use this standard method that has the backing of a national heating and ventilating organization. The code will be brought up again for revision or final adoption at the January, 1928, meeting.

A record of experience in heating a building insulated with cork was presented in a paper by F. M. Holbrook. The building in which the tests were made was the office of the Armstrong Cork Company, linoleum division, at Lancaster, Pa., with a ground area of 13,500 square feet.

These tests were a development by calculation of the heating required to heat the insulated building and the heat required to heat an uninsulated building. A comparison was then made of these two figures to determine the value of this insulation. Four types of wall construction were tested, two with corkboard and two without corkboard.

Cases 1 and 2 were compared; case 1 with corkboard construction required 7,600 feet of radiation as compared with case 2 without corkboard which required 8,956 square feet of radiation. Case 3 with corkboard requires 8,064 square feet of radiation as compared with case 4 without cardboard which required 10,261 square feet. The calculated saving in heat loss through the building construction tested due to the 2-inch insulation was stated to be 21.6 per cent and greater savings for constructions with larger heat losses.

It was interesting to note that the results of the tests checked closely with the data on insulation found in the Guide.

R. N. Trane of La Crosse, Wis., presented a paper on research and experimental work conducted to produce a gravity type copper heat unit. Analyses of various types of heaters he said has been based upon their performance in relation to the amount of heating surface. However, he decided to use as a basis the actual amount of heat procured per pound of material in the heater.

The first test in his investigation was to determine how far it was possible to go in the use of extended surfaces, so widely used in what is come to be known as copper radiation, and the relationship between extended surfaces and various thicknesses of metal. Tests were made of an apparatus made of 2-inch pipe surrounded by discs of copper of various thicknesses, each disc about twelve inches in diameter. The heat emissions from these discs were determined by means of thermocouples at various distances from the center. The result showed that the thicker the copper sheet the less heat there was emitted per pound of material and that with an extended surface nearly four inches from the pipe or prime heating surface it was possible to attain a transmission of 200 B.t.u.'s per pound of copper under the conditions of the test. It was evident from the test that well over 200 B.t.u.'s per pound of metal from the prime surface could be secured.

A comparison was made of sheets of copper 17x8½ inches in size in horizontal and vertical positions. Tests by thermocouples showed that heat from the horizontal position did little compared to those in the vertical position. A comparison was made by measuring the condensation from each type of heater in relation to the temperature of the copper sheet, and the temperature of the air flowing through the heater, and it was presented as an interesting discovery that the discs lying horizontally gave approximately 33 1/3 per cent more condensation than when placed in a vertical position. Many tests were

ARCO

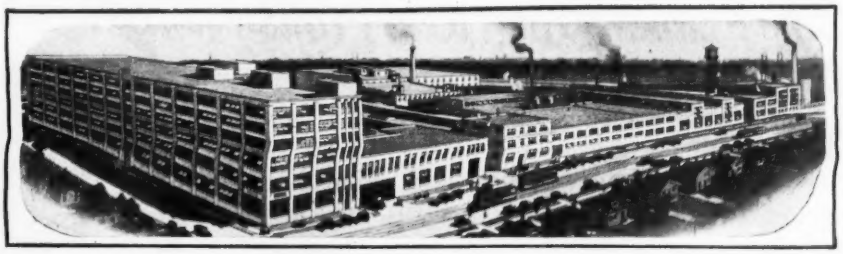
What Are Heating Specialists?

Is that heating contractor a heating specialist who is content merely to make a heating installation mechanically exact? Does he qualify as a heating specialist simply because he knows, through years of experience, just the right way to install boilers and radiators? Is not he the real heating specialist who will suggest and provide those special features of convenience, comfort and safety which grow on the owner and make that owner realize that his installation is yielding a degree of satisfaction that many of his friends and neighbors are not enjoying.

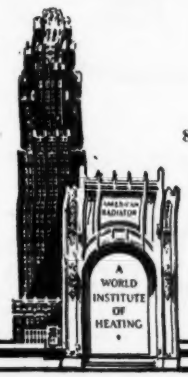
It's the little things that *make the big difference in a* heating installation. And the fellow who will win the reputation of being *the* "heating specialist" in his community is the fellow who will suggest and provide *his customers with* those accessories which are bound to endow his installation with a degree of satisfaction that will not be afforded by competitive installations.

For example, no owner will be annoyed with cold air-clogged steam radiators if you equip the installation with AIRID Air Valves (No. 500). ARCO Packless Valves (No. 988) will give your customers the advantages of their one smooth-turn opening-and-closing feature, their positive insurance against leaks and their smart appearance. ARCO Water Regulator (No. 800) will save your customers endless basement trips to regulate drafts.

These and many other advantages provided by the AMERICAN RADIATOR COMPANY'S complete line of heating accessories will interest the progressive *heating merchant who is* anxious to win the reputation of "heating specialist". Having won such a reputation he is assured of financial success in his line.



American Radiator Company's Detroit Lubricator plant, where a complete line of heating accessories is produced under manufacturing standards that have earned a world-wide reputation for this plant.



AMERICAN RADIATOR COMPANY

ACCESSORIES DIVISION

816-820 South Michigan Avenue Chicago, Illinois

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ARCO WATER REGULATOR No. 800

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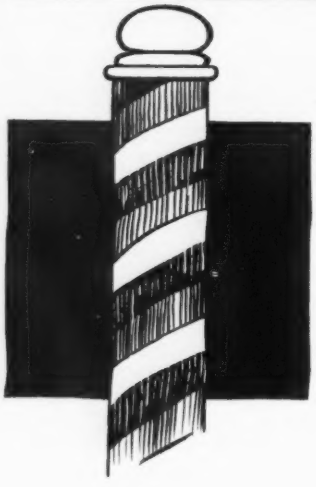
MERCOID CONTROLS

Opportunities for Selling KENNEY Thermo Valves.

"SNAP ACTION"

No. 1 of a Series



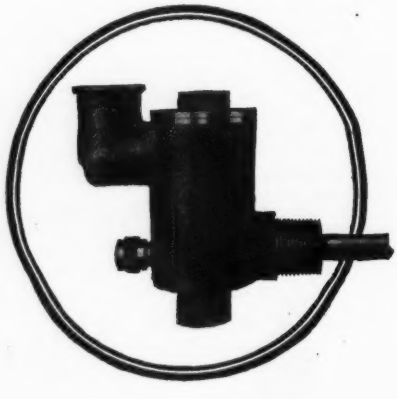
Barber Shops

use plenty of hot water

So many opportunities for selling Kenney Thermo Valves ("Snap Action")—take Barber Shops for instance. Here is a case where plenty of hot water is needed—it must be kept at constant temperature—no waiting and fussing, "hot water when you need it" is the rule. And Kenney Thermo Valves are the valves to guarantee an abundant supply—on the instant!

The Kenney Brings Real Profit to You

Entirely automatic in action—positive, easy to install, converting any boiler into an instant automatic storage hot water heater, the Kenney brings profits to plumber, jobber and manufacturer alike. Snaps on, snaps off, saves gas, time and temper! Investigate!



FLANNERY MFG. CO.

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made on heaters using different sizes of spacing, and various sizes of sheets as well as for methods of attaching the sheets to the central tube. If the sheets are too close together they cannot give out their heat due to the friction of the air between them, and if they are too far apart, the air will not be fully heated. The relationships were shown between the free area through the heater and the B.t.u. per pound, between the floor space and the spacing of the sheet, the relationship of B.t.u. per pound and the height of the sheet, etc. It was upon these various relationships as determined in these tests that the heater was designed. The capacities of these units are rated according to the measurements of condensation.

TESTS OF RADIATOR COVERS

A. P. KRATZ, research professor, and M. K. Fahnestock, special research assistant at the University of Illinois, have for a long time been conducting tests on radiator covers. The data presented on this subject was incidental to the investigations being conducted by the engineering experiment station of that university in co-operation with the Illinois Master Plumbers' Association and the National Association of Boiler and Radiator Manufacturers. This will be issued by the University in the form of a bulletin.

Radiator covers of various types and several kinds were tested in an insulated test booth. The effects of radiator enclosures were determined by the amount of condensation which was collected on the floor below that on which the radiators were located. It is believed that this is the first time such an arrangement for testing radiator enclosures has been used.

No commercial enclosures were used, but all enclosures were so constructed to avoid presenting features that were commercially impossible. The effects of heights as well as sizes and types of openings were determined. All enclosed radiators were compared with an unenclosed radiator painted a flat black. Under the conditions in which the tests were made the unenclosed radiator condensed 24.25 lb. of steam per hour.

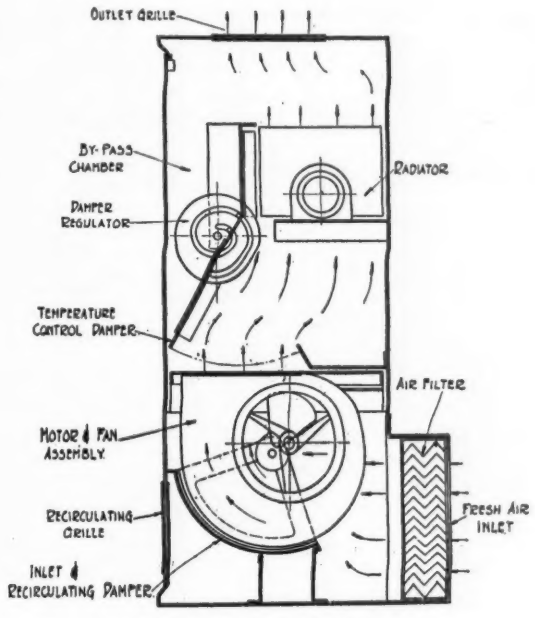
The first tests were made with tops of enclosures practically touching the tops of radiators but with different sizes of openings at tops and bottoms of enclosures. One combination showed relative capacity of 89.1 per cent compared with the unenclosed radiator, another 86.5 per cent, another 83.5 per cent, another 77 per cent and another 69.2 per cent.

From these tests it is apparent, as stated in the paper, that the use of an enclosure materially affects the performance of a radiator, and that the use of a front outlet, even with a comparatively large area is less advantageous than the use of a top outlet. A grille causes more serious reduction when used with a front outlet than with a top outlet.

Other tests were made with enclosures of different heights above the top of the 38-inch radiator used. The tests indicated that height which takes advantage of the so-called chimney effect of radiator enclosures, increases the capacity over those covers that were close to the tops of the radiators. However, it was shown by means of charts that the height increases faster than the resulting increase in performance.

The most significant feature of the tests was that by using the best combination of inlet and outlet with an enclosure 72 inches high, it was demonstrated that it is possible to increase steam condensation capacity of an enclosed radiator above that of the steam radiator that is not enclosed. The relative capacity of this enclosed radiator was rated at 109.1 per cent with the unenclosed radiator rated at 100 per cent.

Tests were also made of enclosures corresponding more or less closely to the radiator cabinets and enclosures now on the market having perforated grilles. One test was made with an enclosure having solid front end and top and a 4-inch x 50-inch grille outlet at the top front and an inlet of 4 x 82½ inches. With this arrangement a relative capacity of 69.2 was obtained. An enclosure having the same inlet and having a solid top and front and ends covered with a grille of punched metal with 44 per cent of free area showed a relative capacity of 84.2 per cent. It was concluded from the tests made that any enclosure unless extended to considerable height above the top of the radiator will reduce the condensation that would be expected from the bare radiator.



Sectional view of a unit ventilator

This, however, is not regarded as the last word on the subject. The performance of radiators in actual use will be taken up at the University of Illinois under the direction of the Illinois Master Plumbers' Association and the National Association of Boiler and Radiator Manufacturers. Two test rooms are now being made by the Engineering Experiment Station of the University of Illinois, and they will be so constructed that temperatures can be controlled both inside and outside of the rooms regardless of the outside weather conditions. By making use of these rooms, it is expected that this study will be extended in the near future to radiators under service conditions.

INFILTRATION

ONE of the important studies of the society is that of infiltration. Air will leak in around windows—there is evidently no way of avoiding that. It also leaks in to a much greater extent than is usually recognized around window casements. This point was brought to the attention of the society by E. S. Hallett, chief engineer of the board of education of St. Louis. So great is the infiltration around windows that in a recently built St. Louis school the spaces around the windows were caulked with oakum and plastered over before the casing was put on. "And," said Mr. Hallett, "why let the air in around windows when, by stopping this infiltration, a known quantity can be introduced by mechanical ventilation?"

So infiltration is a many-sided question—the research committee realizes that and is now searching out some of

(Continued on Page 83)

QUESTIONS

ASKED BY OUR READERS AND ANSWERED BY OUR EXPERTS

The Questions and Answers Department is open to all readers. Here their questions are answered—their problems solved. And, what is more, this department is an open forum, where readers may discuss plumbing and heating subjects. Don't hesitate to ask questions about the things you want to know, and don't fail to send in your comments and criticisms of questions that have been answered. While all questions are answered by men who are expert in their particular lines, your experiences may help a fellow craftsman who is in need of information. This department is for the craft. Use it freely. There are many ways to untie knotty problems.

HOW CAN AIR BE ELIMINATED WHEN FILLING OIL STORAGE TANKS?

Editor, "Domestic Engineering":—I should appreciate some information on a pipe job which I have recently completed. Everything works satisfactorily with the exception that the meter runs much higher than it should, due to air being forced in by the pump while unloading oil from the tank wagon. I fitted in the 4-inch air chamber, as indicated in the accompanying sketch, but this only partially remedied the situation. I have had the tank wagon unload by gravity and this also helped but it takes too long a time to unload the wagon by this method. Can you suggest some way of overcoming this trouble experienced in filling the tank while the pump is running? At first I had a straight run of pipe in from the street, but was advised to drop the meter 1ft. and come up again. Would you advise putting the meter and air chamber in the rear of the cellar near the tanks, which is about 65 ft. from the unloading spot of the tank wagons?

Long Island. J. E. J.

The reason you cannot take the air out is, in our opinion, because the air chamber is connected wrong. The air and oil mixed will be forced downward, as indicated by the arrow at D. We suggest moving the air eliminator to location B, and connecting the pipe as indicated at A. This means the removal of the pipe and oil meter at F on top of the air chamber and installing a ball float air vent to relieve the air as indicated at C. The flow of the oil will discharge the air into chamber B, and it will be released by means of the ball float air vent. The air vent will close automatically when oil reaches the ball float. In ordering this ball float vent, specify that it is to be used on oil and also the pressure against which it is to operate.

Receiver B may be located in the same position as the present receiver, but the piping connection must be made as shown at A and B. Circulation pipe E defeats the purpose of the air chambers. Chamber B should be 16 ft. from the oil tank. With these changes, we believe, the air will be eliminated.

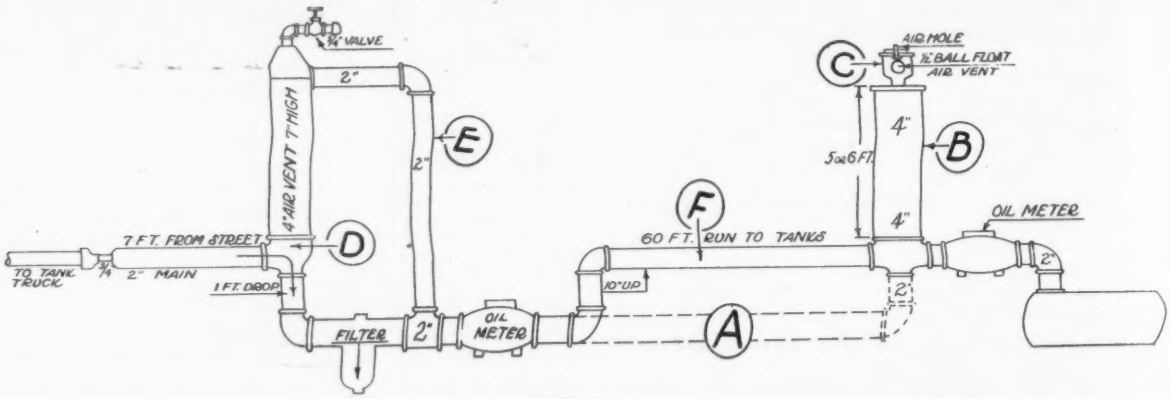


Fig. 1

TO STOP PIPE KNOCKING

Editor, "Domestic Engineering":—Can you give me any information on how to keep pipes from knocking? When faucets are closed the knocking begins, in both hot and cold supply lines. No lead pipe was used in the installation.

New York. R. C.

Knocking is usually caused by the sudden opening and closing of valves and is usually overcome by the installation of air chambers. The ordinary size to use is of either ½ or ¾-inch pipe from 6 to 10 inches long.

Usually the supply pipes are run up in the walls back of the fixtures, with tees instead of ells where pipes turn from the walls to the fixtures, and with the nipples described above forming the air chambers.

In some cases it is necessary to install a large air chamber close to the water meter, and this may be of almost any size. We have found it necessary in certain cases to install air chambers made of 2-inch pipe from 3 to 4 feet long to overcome the water hammer in long runs of pipe.

MARYLAND ASSOCIATION ADDS TO MEMBERSHIP

Eight new members have been admitted into the Maryland Master Plumbers' Association, thereby adding to a total which has already broken all state records for membership. The new members are J. A. Fitch, Charles J. Morgan, Fred. W. Pfaff, Alvin S. Simering, John F. Lehr, Jr., Roland F. Schaefer, Harry S. Michael, and Edward G. McGee, all in Baltimore.

MALLEABLE & GREY IRON FITTINGS
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QUALITY
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MALLEABLE IRON FITTINGS

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Owned by S. S. Fretz, Jr., & Co.
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Look for this attractive picture in full color in the Kohler advertisement in The Saturday Evening Post, July 16, and Liberty, July 30

A new conception of what Kohler means to the plumbing industry

THOSE who attended the National Convention at Minneapolis last month saw the finest exhibit Kohler Co. ever made. They saw Kohler *enameled ware, vitreous ware, plumbing brass, electric plants, and the Kohler Electric Sink*—the hit of the show!

These visitors went away with a new appreciation of the bigness of Kohler and, at the same time, its friendliness; of the completeness of the Kohler line and, at the same time, the superior worth of each individual item in the line. They gained a new conception of what Kohler means to the plumbing industry.

Kohler Co.'s reputation for quality, entrenched by strong national advertising, and Kohler progressiveness in introducing new products like the Kohler Electric Sink, are broadening the business opportunity of every plumbing dealer who sells the products of Kohler of Kohler.

KOHLER CO., *Founded* 1873, KOHLER, WIS.
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KOHLER OF KOHLER
Plumbing Fixtures

This is the advisory committee which directs the affairs of the Dayton Part-Time School. Reading from left to right: R. E. Foerste, Bricker Plumbing Co., Joseph L. Shafner, secretary of the committee, Geo. A. Schneider, chairman of the committee, C. G. Sharkey, vocational director of Dayton schools, Perry L. Ritchie, instructor of plumbing, William Arnold, Pickrel Plumbing Co., H. J. Osterfeld and James Campbell, of the H. J. Osterfeld Co.

Dayton Fits Training *to the* Needs *of the* Apprentice

THE BOY attending the Part-Time Trade Extension School for Plumbers' Apprentices, established in Dayton, Ohio, in accordance with the Smith-Hughes Act, is given a training completely fitted to his needs. Perry L. Ritchie, Instructor of Plumbing, in touching on this phase of the school's work, said:

"Our big effort is to co-ordinate our training here with the experience the boy is getting in the shop and on the job. We find out what the boys are doing in their daily work and then give them new work at the school. This gives to each boy a certain amount of personal direction. The course is altered to fit the boy's individual needs. For instance, a boy who is working with lead every day is not given lead work in the classes. Often the boy on big building jobs doesn't get lead work—or even the fundamental principles of plumbing. He sees a lot of fixtures without getting a clear idea of the whole job."

The boy who doesn't get lead work has this training as part of his work in the school. Others are put to work tearing down pumps, doing repair work, and so on—always a type of work they aren't getting in their work on the job.

The subjects for the evening classes are: Monday, Elementary Arithmetic; Tuesday, Elementary Pipe Welding; Wednesday, Heating and Ventilating Theory; Thursday, Advanced Welding; Friday, Lead Work. These classes are for journeymen, excepting where, in order to fill a class, a few apprentices are admitted.

The day classes—there are 56 in attendance—are as follows: Monday, probationary period; Tuesday, first year apprentices; Wednesday, second year apprentices; Thursday, third and fourth year apprentices. The process of getting into the school is to make application, which is placed on file. When there is need of an apprentice in one of the local shops, the boy is put to work and then commences his six-months' probationary period, at the end of which time, if satisfactory progress has been made, the boy becomes a full-fledged apprentice and enters on his first-year training.

In order to provide a variety of jobs on which the boys may work, frame-work has been erected to take care of ten simple fixture installations. During the visit of the reporter, two jobs were in course of completion. Each boy has the benefit of the instructor's inspection and criticism when the job has been completed. These jobs called, of course, for a great deal of lead work.

In addition to the simple fixture frame-work, there has been prepared space for three complete bathroom installations, making use of a three-inch stack and a four-inch stack. In the shop room there is also set aside space for pump work, where the boys may dismantle a pump and re-assemble it. Also a hot water installation has been provided.

The tool room is a model and no effort is spared to impress on the boys the respect a good workman must have for the tools with which he works. On a small bulletin board Mr. Ritchie tries to keep a bit of information which will be of interest to the boys—technical in nature, but not necessarily dealing with plumbing and heating.

In order that all the training that has been given in the first three years may be applied, Mr. Ritchie makes use of the Drawing Problems prepared by "Domestic Engineering." Starting with the bare problem, Mr. Ritchie has mimeographed progressive lesson sheets. Taking the proposed code for Dayton, each lesson requires the student to work out one phase of the job in accordance with the regulations of the code. Before the student draws in his solution on the actual problem sheet as presented by "Domestic Engineering" in pamphlet form, he must submit his idea of the application of the code on another sheet. When his rough drawing is correct, he is then permitted to record it on the drawing problem.

Each boy's work is kept in a separate filing folder, marked with his name. The problem on which these stu-

A few of the typical Square "Gee" fittin's used on the above installation.

Quick Starting Means Quick Finishing

A *SQUARE "Gee" fittin' in your* mit—one twist of your wrist ··· a tight, leak-proof connection is in the making.

Square "Gee's" come easy and fit tight" *the first time.* Their quick *startin' ability is a guarantee to you* of a speedy job—lower time and labor costs—and more profit—dollars in your pocket.

The threaded accuracy, the careful finishing and smooth countersinking of Square "Gee" fittin's will win your confidence in their performance ability as unseen guardians of an always tight job.

Let Square "Gee's" quick start you toward greater profits. Say Square "Gee's" to your jobber's salesman on your next fittin' order.

THE GRABLER MANUFACTURING COMPANY · *Cleveland, Ohio*
New York · Chicago · San Francisco · Los Angeles

SQUARE
Malleable Iron

"GEE"
PipeFITTINGS

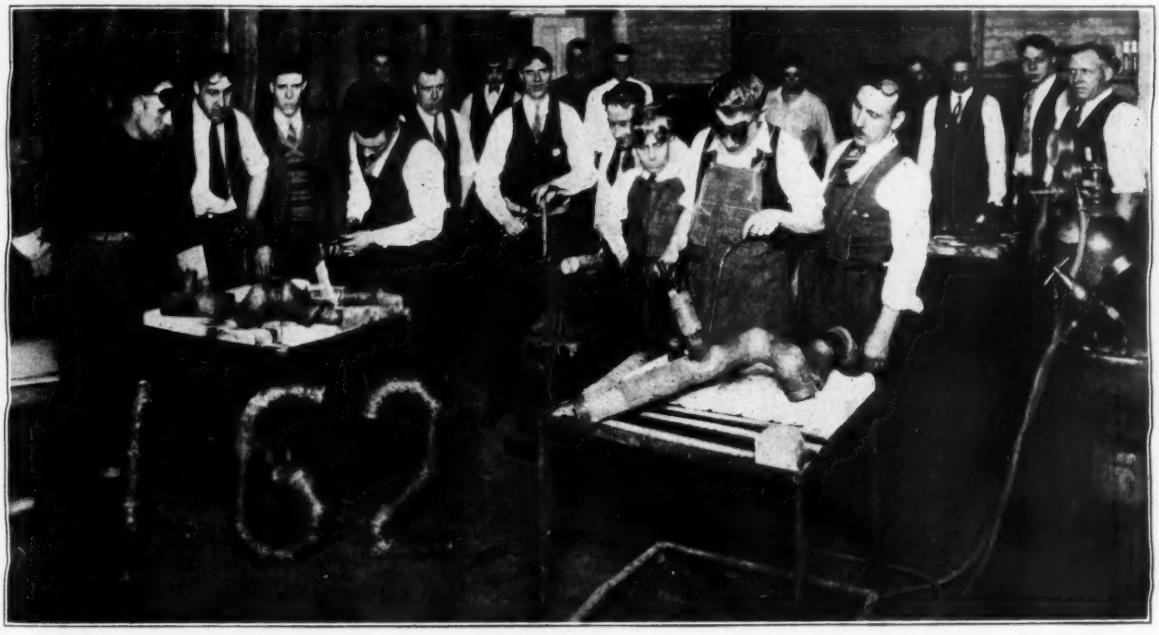
dents are at present working has already run through seventeen lessons. Each lesson sheet is filed in the folder, and on the drawing problem the solution is drawn in and numbered in accordance with the number of the lesson.

The filing folder, with its work progressing from week to week, is quite naturally a matter of pride to the individual student. By way of encouraging the boys, in the shop there is a large wall space devoted to samples of the lead bends, each carrying a card showing the name of the boy who did the work, together with the name of the plumbing shop for which he is working.

The whole plan of the school, as Mr. Ritchie pointed out, is to give the boy the right proportion of principle and practice, and to supplement the type of work he is accustomed to on the job with such other training as is needed to make a well-rounded mechanic.

Splendid co-operation is offered the school on every hand. The local Building Inspection Department follows the work of the school closely, as does Wm. J. Yackley, Chief Plumbing Inspector. Representing the Master Plumbers Association on the Advisory Committee are: Geo. A. Schneider, chairman of the committee and secretary of the association; H. J. Osterfeld, of the H. J. Osterfeld Co., and R. E. Foerste, of the Bricker Plumbing Co. Representing the journeymen plumbers and fitters Local No. 162 are: Joseph L. Shafner, secretary of the committee and secretary-treasurer of the local; William Arnold, of the Pickrel Plumbing Co., and James Campbell of the H. J. Osterfeld Co. For the Dayton Board of Education, C. G. Sharkey, Vocational Director, and for the state, E. L. Heusch, Supervisor of Trade and Industrial Vocational Education. Thus the trade, the city and the state are fully represented in this important work.

The instructors are as follows: Perry L. Ritchie, plumbing; Chas. E. McMichael, heating, and Alvin Riley and John Staddon, welding.



The welding class.—At the extreme left is John Staddon, and at left of pupil in right foreground is Alvin Riley, both instructors in welding. Mr. Ritchie, plumbing instructor, is at the extreme right

To Measure Stream Pollution

A reader of "Domestic Engineering" has asked for a method of measuring stream pollution.

In the proceedings of the American Society of Civil Engineers a method of measuring the extent of stream pollution is given by J. K. Hoskins. He says:

"From bacteriological observations on the Ohio and Illinois Rivers, certain relationships have been noted in the pollution resulting from known numbers of population, which, if of general occurrence, are of value in estimating the effect of adding sewage from a known population to a stream of determined volume and velocity.

"It is essential to know not only the concentration of bacteria but also the actual quantities of organisms per unit of time that are contributed, and for this purpose the 'quantity unit' has been devised. The quantity unit is the product of a stream discharge of one cubic foot per second and concentration of 1,000 bacteria per cubic centimeter. The number of units of bacteria in a stream equals:

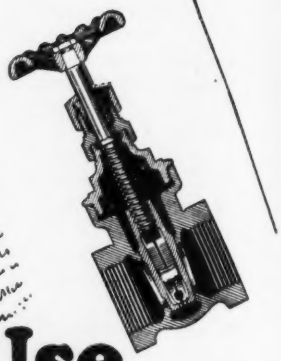
$$\frac{\text{Discharge in second feet} \times \text{Bacteria per cubic centimeter}}{1{,}000}$$

"From the per capita contributions of four cities it was found that the numbers of bacteria varied consistently with seasonal temperature, being higher in summer than in winter. By averaging the data, the quantity units of gelatin, agar and B. coli counts contributed per capita could be computed. If these average per capita contributions are representative, it is then possible to compute in any stream of determined discharge the bacteria that results from a known sewered population, by the relationship:

$$\text{Bacteria per cubic centimeter added} = \frac{\text{Population} \times \text{quantity units per capita}}{\text{Discharge in thousands of second feet.}}$$

It has been further observed that such maximum bacterial content in the stream does not occur at the sewer outlet but at a point from 10 to 30 hours downstream."

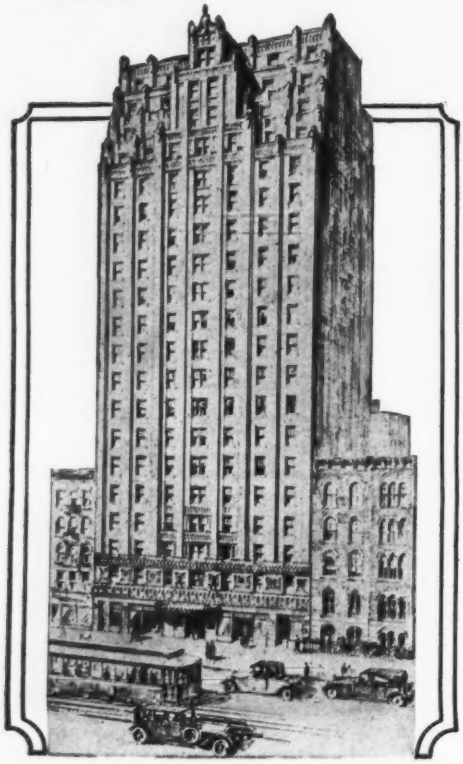
From ascertained rates of bacterial decrease in the flowing stream (natural bacterial purification) it is possible to estimate, for the various seasons, the bacterial content at any point below the source of pollution, providing the velocity of flow is known.



APPROVED R.J.F. SPECIFICATIONS

Now You Can Use Gates More Freely

This is the one-piece Flexitite Disc. It is hollow with a slotted edge, which makes it slightly flexible. The disc readily adjusts itself to the seats, making an absolutely tight contact and a leakless gate valve.



Women's Hotel, 351 W. 42nd St., New York City uses about 1500 No. 20 Line Flexitite Gates. Architects, Deutch & Schneider. Contractor, Modern Plumbing Corporation. Wholesaler, E. Schwartz Plumbing Supply Co.

EVERYBODY knows that important service advantages result from the use of the full-opening, free-flow gate valve. Yet many globe valves are still used where gate valves would give better service. Why? Simply because the full-flow advantage of the ordinary Old Style gate valve is offset by a big disadvantage: it can't be depended on to shut off tight.

To prevent leaky gate valve trouble and insure a positive shut-off, Ohio Brass Company developed a gate of entirely new design, the *Flexitite* Gate. And now, for the first time, you can use gate valves as freely as you have used globes —with the assurance that your gates will *not* leak. For the Flexitite Gate combines the advantages of full flow and a positive shut-off.

Today the trade recognizes the Flexitite principle as one of the greatest improvements ever made in gate valve design. Leading engineers and architects endorse and take the trouble to *specify* not just "gate valves" but OHIO BRASS Flexitite Gates—with the patented never leak Flexitite Disc. Plumbers and steam fitters use thousands of Flexitites every day, for average jobs as well as their most important installations. It's good business because it means no trouble when the valve is installed and a permanently satisfied customer.

Flexitite Gate Valves are easy to get. Your Wholesaler carries them in stock for immediate delivery.

Ohio Brass Company
Mansfield, Ohio
440V

Ohio Brass Co.

SALES OFFICES: NEW YORK CHICAGO PHILADELPHIA PITTSBURGH CLEVELAND SAN FRANCISCO LOS ANGELES

PORCELAIN INSULATORS
LINE MATERIALS
RAIL BONDS
CAR EQUIPMENT
MINING MATERIALS
VALVES

This is one of a series of picture stories on the Manufacture, Use and Handling of

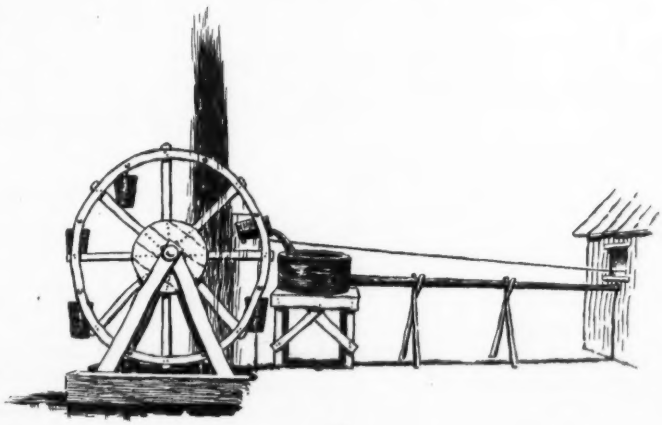
No. 28

FAUCETS

SORTING

ABOVE is shown the sorting of faucet castings. Each kind of castings is gathered together in one box to facilitate the operations which are to follow.

Below is illustrated one of the many contrivances that have been invented to take the place of the faucet. Water flowing over a dam fills the buckets. The wheels rotate without emptying any of the buckets until water is wanted in the dwelling. Then a string is pulled which acts on a pin. The pin tips each bucket in turn, so long as the string is pulled taut. In this way the pulling or releasing of the string starts or stops the flow of water. Thus this device had all the functions of the modern faucet. Primitive as this device was, it served a very useful purpose.



Advertising Editorial

A NEW ONE EVERY WEEK—No. 276

Hot Water

—*a summer problem*

WHEN YOUR heating plant has been shut down for the summer, what do you do for hot water? If you are still heating it on the kitchen range, you are enduring an unnecessary discomfort—and probably paying more than you ought to for hot water. Modern water heaters, such as we carry, deliver hot water to the faucet, immediately, in whatever quantity you need. Won't you come in and see our display? No obligation on your part—and you'll probably find the solution of your hot water problem here.

(In this space your Name,
Telephone, and
Address)

A BATH A DAY KEEPS YOU FIT EVERY WAY

Phone for a free copy of "The Story of the Bath." It's good summer reading. Humorous, historical—and it isn't advertising.

Advertising—A Necessity

A LOT of people live in total ignorance of the service you as a plumbing and heating contractor render. Yet what you have to offer is vital to people in the way of comfort, convenience and health. Others, who do not serve needs as vital as those you serve, keep a constant stream of advertising flowing toward prospects. Get into the game. Modern competitive conditions make it necessary for you to advertise if you expect to build a real business. The Advertising Editorial service makes advertising easy—we send cut and copy each week. Only $4.20 for twelve illustrations. Send in your order today.

You are, of course, quite welcome to use material on this page whether you order illustrations or not.

SALES LETTER

One a Week—No. 113

Now that warm weather is on us, many homes find the problem of hot water a pressing one. Send the following letter to homes which need water heating equipment.

JOHN BROWN
Plumbing : Heating

Two Rivers, N. Y.,
July 2, 1927.

Mrs. Edward Jones,
Two Rivers, N. Y.

Dear Madam:

Have you ever tried to total up the number of uses there are for hot water in the home?

And unless there is modern water heating equipment, the problem of supplying the family with hot water during the summer is bound to give rise to inconvenience.

Modern water heating equipment delivers hot water at the faucet—in whatever quantity is needed. It is economical because of the fact that it saves time and effort, and because it delivers just the quantity of hot water you require. The old-fashioned method was wasteful, not to mention its inconvenience.

We have here a number of types of water heaters on display. We should be glad to have you come in and see them. Absolutely no obligation on your part, of course—but we do believe that you will find here the solution of your summer hot water problem.

Drop in at any time convenient to you. Visitors are always welcome.

Yours very truly,
JOHN BROWN.

Adlet

ONE A WEEK—No. 132

A SMALL newspaper advertisement, run every day, makes an insistent demand on newspaper readers for attention. Note the number of these small advertisements in your local papers. Many use the Adlet because they can run from ten to fourteen of them for the same price as one Advertising Editorial. If you feel you can't afford to use the larger advertisement each week, at least you can't afford not to use a small, inexpensive ad like the one below. Copy it out, add your name, telephone and address and hand it to your paper.

Hot Water

At the faucet—when you want it and as much as you want. We'll solve your hot water problem for the summer—and for the year around. Come in and see our water heating equipment.

It's mighty satisfying to install a heating system and know that its economical operation will bring back dividends to you in the form of good will and new business.

The deep steam dome of the Essex Boiler is a Gurney feature that makes for real economy in operation. The steam space is unusually deep and is entirely free from obstructing gas flues. This exceptional steam reservoir insures both dry and rapid steaming and does not carry entrained water into the system.

A good product plus good service brings good will. And thousands of heating contractors know that Gurney Boilers *are* good boilers. That is why they specify them.

Gurney

GURNEY HEATER M'F'G COMPANY.

GENERAL OFFICES • BOSTON, MASS.

93-97 OLIVER ST., FORT HILL SQUARE

GURNEY HEATER CO., Inc.
New York City Office and Warehouse
Manley Street, Cor. Austin Avenue
Long Island City

GURNEY HEATER M'F'G CO.
Richmond Office
Cor. East Main and Ninth Streets
Richmond, Va.

GURNEY HEATER CO., Inc.
Philadelphia Office and Warehouse
Cor. 11th St. and Washington Ave.
Philadelphia, Pa.

Essex Steam Boiler

1121

How Important is the Lavatory?

[One way to learn that is to shut off the water from it for a few days]

THE LAVATORY is used first thing in the morning and last thing at night.

It is used every time any member of the family wants to wash face or hands.

It is seen by a great share of the family's guests —by all who remain for more than a few hours.

It is an obvious index to the housekeeping standards of the home.

* * *

The lavatory, in short, has an importance in the household far beyond that of any other piece of household equipment of comparable cost.

For that reason, quality in the lavatory takes on special significance.

The cost to the consumer of a Madbury Lavatory of Durock is only about $10 more than the cost of pedestal-base lavatory of coated iron.

Yet the former means permanent satisfaction, unchangeable beauty, laborless maintenance, constant pride.

And the latter means eventual dissatisfaction, chipping and discoloration, endless scrubbing and scouring, apologies and embarrassment.

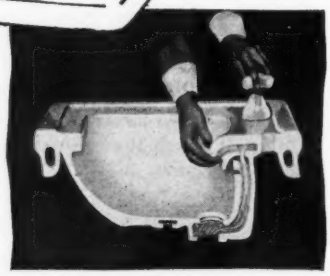
These being the facts, to recommend the installation of a Madbury Lavatory of Durock is to add to the customer's satisfaction and so, to the contracting plumber's success.

We have prepared for you a selling plan, which has already brought business for many plumbers. The coupon below will bring your copy.

THOMAS MADDOCK'S SONS COMPANY
Oldest Sanitary Potters in America
Trenton, New Jersey

The Madbury Lavatory

Made of Durock—a superior grade of vitreous china. No exposed metal to tarnish or wear brassy.



The overflow of a lavatory is the only hidden part. Consequently, it is the lodging place for filth and disease germs. The Madbury is the only lavatory made having an overflow which can be cleaned. To thoroughly cleanse the overflow of the Madbury it is only necessary to place a finger over the supply nozzle and *turn on the valves. The water is thus forced* through the overflow, under pressure, removing any germ-breeding accumulation of soil.

MADDOCK
DUROCK Bathroom Equipment

THOMAS MADDOCK'S SONS CO., Trenton, N. J. Date.....

This booklet, "The Two Vitally Important Fixtures in the Bathroom", also illustrated letter, will help you tell your prospects about the Madbury and other Durock Fixtures. Attach this coupon to your letter or bill head and mail to us for copies.

Name.....

Street Address..... City..... State .....

Problems of the Oil Burner Dealer

(Continued from Page 27)

that permeates the entire building, the ash pile in the spring that sometimes approximates in size the coal pile in the fall, the uneven heat and also the attention that must be paid to a coal fire in the way of shoveling in coal and shoveling out ashes, ask him to compare that with oil burning—oil put in with no dirt or mess, the home kept at a uniform temperature with no labor, heat available in spring and fall whenever it is needed, and shut off automatically whenever it is not needed, the home nest always comfortable! Is it any wonder the American home owner seizes this opportunity to make friend wife and the babies comfortable?

One oil burner manufacturer has coined the phrase, "A coal shovel was never made for a lady's hand." These are some of the reasons why the American public has gladly backed the efforts of the oil burner manufacturer and the oil burner dealer.

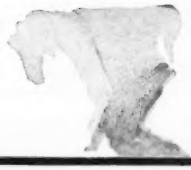
The advent of machinery into the American home is the outstanding development during the last decade. The telephone, the radio, the phonograph, the automatic ice machine, the hot water heater, the oil burner, the electric washer, the electric ironer, the electric flat iron, and to some extent the automatic humidifier—are all pieces of machinery introduced into the home for the comfort, welfare and happiness of the family. Let any American home be equipped with all these appliances, including the automobile, and after the home owner has enjoyed every one of them, I venture the assertion that if he were compelled to give them up one by one, that the oil burner would be the last one surrendered.

It should be borne in mind in connection with suitable oils for home heating that the domestic oil burner is an unattended device and that it operates on very small feeds. The engineer in charge of an industrial burner can make adjustments, clean the screens and nozzles, and give the apparatus expert care. In the case of a domestic burner, however, there is no skilled attendant on the premises, and when the screens or nozzles become clogged, the burner runs on as best it can until it goes out of commission altogether, and then the service man has to be called to clean the nozzle and screens and put the burner back into service. For this reason it would seem apparent that clean oil is imperative for the satisfactory use of the domestic oil burner.

It also must be borne in mind that the industrial burner may use hundreds of gallons, or even thousands of gallons per day, but that the domestic oil burner operates on a feed of from one to five or six gallons per hour, consequently its orifices and valve openings must be small. Being small, they are much more easily clogged than is the case with the industrial machine.

OIL BURNING BOILERS

MAY we digress here a little from the subject of oil burner design and manufacture and consider a side line very intimately connected with the burner design. I refer to boilers used in home heating. Most oil burners, practically all oil burners on the market at the present time, are designed for installation in domestic boilers of a type that has been, and still is, used for coal. In other words, the burner manufacturer has designed his burner to go into a home heating boiler that was previously designed for the burning of coal. In most cases this means anthracite coal, although, of course, many



Any

HEATING PLANT

is only as good as its

CONTROLS

YOU cannot expect 100% customer satisfaction if you neglect to provide your customers with the comfort, convenience, economy and safety of *good automatic control*, or if you recommend an inferior type of control. ¶ Progressive heating merchants everywhere are recommending and providing *Honeywell*—sowing seed in customer satisfaction that will mean a harvest of new business with its incidental extra profits. ¶ The householder who is experiencing the conveniences and economies of a *Honeywell* automatically controlled heating plant is going to talk to his friends and neighbors about the advantages he is enjoying and the heating contractor who provided those advantages. That is advertising that no *amount of money can purchase.*

Leading manufacturers of heating boilers everywhere recommend *Honeywell* exclusively. Of the important automatically controlled domestic oil burners a very substantial proportion is equipped with *Honeywell*

HONEYWELL HEATING *SPECIALTIES* COMPANY

WABASH . . . INDIANA

HONEYWELL

Temperature Regulators

PERFECTION
PIPE HANGERS

HANG PIPES RIGHT

When you use Perfection Jumbo Pipe Hangers you hang pipe correctly and safely. It takes only half the time to install Perfection Jumbo's and once in, they give satisfactory service always.

From your jobber

The BEATON & CADWELL MFG. CO.
Established 1894
NEW BRITAIN, CONN.

The Hudson Concealed Shower
Body Features

1—red brass made from ingot melted electrically
2—tested against 150 lbs. water pressure
3—china adjustable flanges with N. P. shanks
4—non-cemented china handle screwed rigidly by china-index button
5—by-pass connections and union couplings

HUDSON BRASS WORKS, INC., BROOKLYN, N.Y.

BY SPECIFYING Heggie-Simplex Steel Boilers, architects and building committees for many important structures have endorsed what Heggie's 35 years have accomplished—the most modern of heating boilers, in which scientific design combines every essential with preeminent quality.

HEGGIE-SIMPLEX BOILER COMPANY
JOLIET, ILLINOIS
Representatives in Principal Cities

UNITED
Complete
Enduring Quality
Built-in Bath and Shower Fixtures
Staple Plumbing Brass Goods
Tubular Brass Goods
Water Works Brass Goods
United-Oberndorf Corporation
Cleveland, Ohio

house heating boilers will burn coke or bituminous coal, or even wood, with a fair degree of satisfaction.

It is only within the past few years that some of the boiler manufacturers have begun to realize the stability of the oil burner industry and have begun to make boilers that are designed with more of a view to their being used for oil than for coal. If these manufacturers have not designed their boilers specifically for oil, they have at least given the possibilities of their being used for oil equal importance to their use with coal. In other words, the design of a better type of house heating boiler has been brought about by the advent of the oil burner.

I think we also might say in passing, that the advent of home heating with gas has had a tendency to improve boiler design both for coal and for oil. The great demand in the better class of American homes is to have full automatic heat. That is the great goal of all engineers who contemplate home heating seriously. It is a joy to live in a home automatically heated, a joy so great that, when compared with a hand fired boiler, it must be experienced to be appreciated.

Somebody has defined an engineer as "One who can do with a dollar what any fool can do with two dollars." So, the ambition of the combustion engineer in home heating today is to produce an oil burner and an oil burning boiler that will give automatic heat in the home with high efficiency and therefore correspondingly decreased cost. The modern burner in the modern boiler is doing this, and in many parts of the country where oil is reasonable in price and coal is high due to transportation charges and other things, homes are being automatically heated with oil with a considerable saving over and above what they would cost if heated with coal. In other parts of the country, due to high prices of oil and low prices of coal, automatic heating with oil is becoming popular even though it costs considerably more than coal heating.

This improved boiler that I am speaking about will increase the economy of oil heating; it will increase the safety of oil heating and put the whole installation of such a boiler and burner on a higher plane than it has ever been before. This will give increased satisfaction, increased economy and increased safety to the user.

TANK INSTALLATION

THE UTMOST care should be taken in the selection of locations for tanks and the locations of filler and vent pipes. The utmost care should be taken to have the work performed with a minimum amount of disturbance to the home owner. The wiring and pipe work should receive careful consideration. The employment of the most competent mechanics available will pay the oil burner dealer and pay him well in the long run. In other words, a job simply cannot be put in too well.

When the first few jobs are installed, it would be well for the engineer of the oil burner dealer organization to conduct a few CO_2 tests and, in this way, get an efficiency check on his work at the beginning. After a few such tests have been made, a competent installer can inspect a plant and set the burner at a high point of efficiency without the necessity of CO_2 tests.

No installation should be made that is not checked back on the day after the installation is made and started. Within a week, a second call back should be made to see that everything is all right. Many times leaky joints will develop after the burner has been in use for a week, leaks that do not show up at all in the first 24 or 48 hours.

As the dealer gets into the oil burner business he will soon see, of course, that there are two types of tank installations. Two hundred seventy-five gallons is allowed

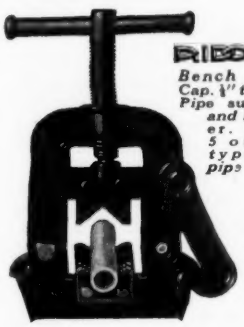
The famous "Twist Test" of a RIDGID *Wrench. And after untwisting the handle, the nut revolves just as freely as before.*

What Does It Mean?

JUST this: that a RIDGID Pipe Wrench is made with such extraordinary metal guts that it stands up under abuse that will smash an ordinary wrench. Twist a RIDGID as the gentleman is doing in the illustration and the housing is still as good as new. *That's why you find the* RIDGID guarantee label below on every wrench. It is safe for us: we know the housing will not break or distort. Which makes a RIDGID doubly safe for you. And you get these 7 other advantages extra—

Unbreakable hook jaw—powerful I-beam handle—nut free in open housing—won't lock on a pipe—hang-up hole in handle—pipe-size scale—also made in End Pattern.

It has to be an extraordinary tool to get thousands of plumbers and steam fitters insisting that it's the best wrench they ever used. Get one from your Jobber and see for yourself.



RIDGID *Bench Vise Cap. ¼" to 2½". Pipe support and bender. Also 5 other types of pipe vises.*

THE RIDGE TOOL CO., DEPT. D, ELYRIA, OHIO

RIDGID

PIPE WRENCHES
VISES AND PIPE
CUTTERS

WRENCHES

RIDGID *Pipe Cutter. The thin hammered steel blade cuts easier, without burr, lasts longer and costs a third as much as an ordinary cutter wheel.*

PENBERTHY PRODUCTS

Penberthy Profits ¬ Stay Put ¬

Profits made with the Penberthy Model "R" Cellar Drainer are profits that stay 'put.' No need to worry about being called back for expensive service calls, just install it and let the satisfied customer you make be your booster. The Penberthy Model "R" will take care of any draining job.

We've some interesting information for you — write for it.

Penberthy Injector Company
Established 1886
1260 Holden Ave. :: Detroit, Mich.
Canadian Plant: Windsor, Ontario

Our Catalog is

Penberthy
AUTOMATIC CELLAR DRAINERS

directly in the basement by the National Board of Fire Underwriters. Tanks of greater capacity must either be buried under the basement floor or the tank must be *buried out in the yard.*

Those dealers who have made a study of sub-basement installations find them very advantageous, very reasonable in cost, and such installations have the great advantage of easy gauging by the home owner. He should, of course, visit his burner at least once a week, and if the tank is a sub-basement tank, an inspection should be made to disclose the amount of oil on hand.

The rules of Underwriters' Laboratories provide that tanks of 1,300 gallons capacity or less can be buried under the basement floor and need not be covered to a depth of more than four inches if the covering consists of a reinforced concrete slab capable of carrying a weight of 250 pounds to the square foot. Where tanks contain only 275 gallons, they can be mounted on adequate supports directly in the basement and, when so mounted and neatly painted, constitute a very nice equipment indeed.

With the delivery of oil for home heating becoming almost as general in our big cities as the delivery of milk and cream, there is no longer the argument in favor of the large tank that there used to be. It is still true that the oil companies give a better price for larger deliveries. But if one takes the interest and depreciation involved in the extra cost of a large tank, and sets it over against the saving in the price of oil, one will be surprised how little difference there is after all to the home owner between the 275-gallon tank and the larger tank which has to be buried underground either in the yard or under the basement floor.

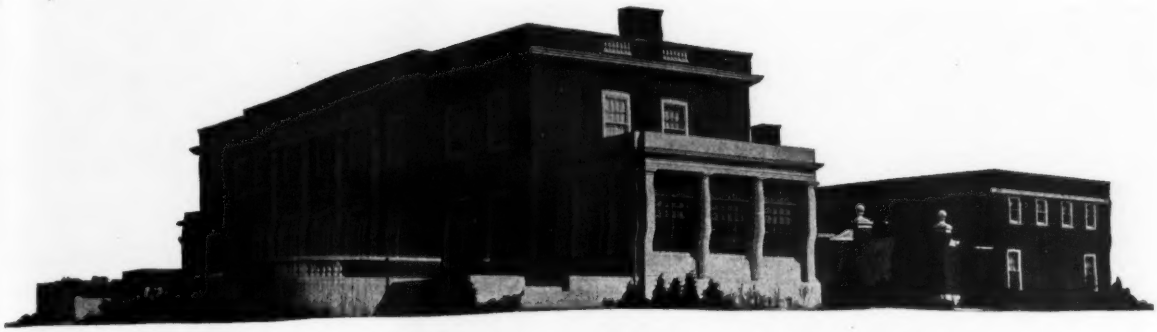
Suppose the home owner uses 2,500 gallons of oil, and suppose he saves 1½ cents per gallon, his total saving would be $37.50. As prices of tanks vary, let us take an arbitrary figure, .500 to represent the cost of a 1000-gallon tank. Then a 275-gallon tank installed in the basement would probably cost in most places something in the neighborhood of .200, leaving .300 difference in cost of tank equipment. To this must be added say .150 for the automatic pump, which will be required with most burners where the larger tank is buried outdoors or underneath the basement floor, so that the total difference to the user between one installation and the other will be .450.

If we figure 6 per cent interest on the money, and 10 per cent depreciation on the tank and pump equipment, we have an interest and depreciation charge of .72. Added to this there is the cost of current to operate the electric pump and the service charges in connection with the pump. These arbitrary costs of tanks, pumps, interest and depreciation are given so that the oil burner dealer can make a practical application of them to the prices he has to pay for this equipment.

I think it is well for the oil burner dealer to have this situation well in mind, so that he can explain it clearly and with adequate figures so that the prospective purchaser of the oil burner can see just where he will land with both types of installation—that is, an installation with a 275-gallon tank in the basement on the one hand, and an installation with a 1000-gallon tank buried underground or under the basement floor on the other hand.

JAMES M. CARAHER CALLED BY DEATH

James M. Caraher, works manager of the Goulds Pumps, Inc., Seneca Falls, N. Y., died at his home in that city on June 19 after a two months' illness. Mr. Caraher had a large circle of friends in the trade who will be sorry to receive the news of his death.



Appropriately chosen for the superb home of

Mr. A. R. ERSKINE

PRESIDENT, THE STUDEBAKER CORPORATION

UTICA-IMPERIAL SUPER-SMOKELESS Boilers are perfectly suited to residences of the finer type. They burn soft coal *smokelessly*, without any expert attention, while their long firing periods and persistent freedom from soot reduce the actual *amount* of required care to an absolute minimum.

With fuel oil even higher efficiency is obtainable.

It was just such reasons as these that led to the installation of two Super-Smokeless Boilers in the home of Mr. A. R. Erskine, President of the Studebaker Corporation, at South Bend, Ind.

UTICA HEATER COMPANY, Utica, N.Y.

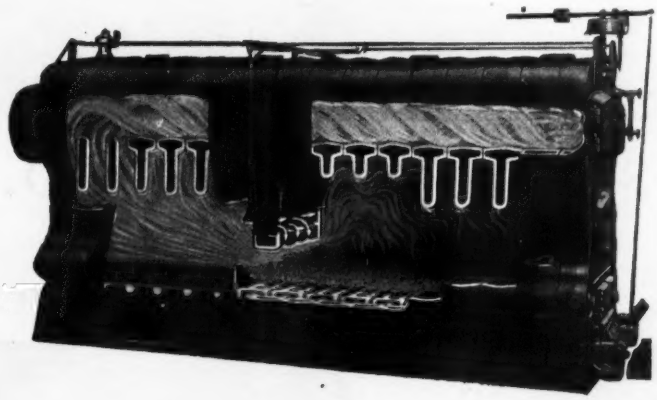
Pioneers in Smokeless Combustion

Sales Offices in Principal Cities of U. S. and Canada

UTICA-IMPERIAL

SUPER-SMOKELESS

· BOILERS ·



Architects for Mr. Erskine's residence were Austin & Shambleau. L. H. Prentice Company were heating contractors. Shall we send you further information about this and other installations?

Precision
With the handle held down or released — Sloan Royal Flush Valves deliver a precise, uniform flush at every operation. This Automatic Closing feature has won national favor among plumbers who know the value of installing the flush valves that insure positive protection against waste and insanitation.

SLOAN VALVE CO.

CHICAGO

Albany, N. Y.
Atlanta, Ga.
Baltimore, Md.
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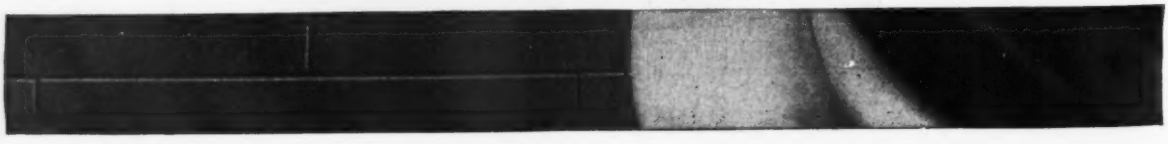
Butte, Mont.
Cincinnati, Ohio
Cleveland, Ohio
Dallas, Texas
Denver, Colo.
Des Moines, Iowa
Detroit, Mich.
Durham, Conn.
Fort Wayne, Ind.
Indianapolis, Ind.
Jacksonville, Fla.
Kansas City, Mo.
Los Angeles, Cal.
Memphis, Tenn.
Miami, Fla.
Milwaukee, Wis.
Minneapolis, Minn.
Nashville, Tenn.
Newark, N. J.
New Orleans, La.
New York City, N. Y.
Oklahoma City, Okla.
Philadelphia, Pa.
Pittsburgh, Pa.
San Francisco, Cal.
Seattle, Wash.
St. Louis, Mo.
Tampa, Fla.
Washington, D. C.
Richmond, Va.



MARKETS

BUSINESS CONDITIONS IN LEADING JOBBING CENTERS

CHICAGO

The completion of the first half of the year finds optimistic reports coming from most manufacturers in this territory. Not only are they looking to the future with keen anticipation, but, in reviewing activities for the past six months, many discover that while their total volume was not quite as heavy as for the first half of last year, the falling off was not in too large volume to be made up in many instances before the end of December. Business during the week maintained an even keel, with demand for most items holding at levels corresponding closely with last week. Building continues to maintain a brisk rate in Chicago and surrounding territory. One of the most active of the suburban building programs is in progress in Niles Center. According to figures recently released, this town issued a greater volume of building permits in a little less than five months of this year than during the whole of 1926. The 1926 total was $1,326,561, while for the above mentioned period of this year the total amounts to $1,348,945.

The large soil pipe foundry which recently issued a new price sheet carrying a reduction of approximately 10 points announced in a letter to its customers dated June 30 the withdrawal of all prices, adding that new prices would be announced at an early date. Several other makers who were reported in these columns last week as taking business at a level 5 points above the low sheet of the maker mentioned above, have issued new sheets incorporating this change. Jobbers' prices have not changed except to reflect these changes announced by soil pipe foundries, and, in general, wholesalers' quotations are not strong in this territory.

Soil Pipe

The large foundry which recently issued a new sheet reducing prices approximately 10 points, as reported in these columns last week, sent a letter to its customers dated June 30, announcing the withdrawal of all prices on soil pipe and fittings. Those foundries who in last week's review were reported accepting business at a price five points off the market which had prevailed since February, 1926, have for the most part, issued new sheets incorporating this price. Quite a substantial tonnage was accounted for during the period of the low sheet, according to the maker concerned, and, while no deferred shipment business was booked at this low level, it is stated that it will be some time before all this tonnage can be conveniently shipped.

Steel Pipe

Manufacturers in this territory find little complaint with business, and, in general, are quite well satisfied with the tonnage for the first half of the year. The firm, unchanged prices that have prevailed for so long have, naturally, a tendency toward helping to uphold a fairly steady flow of business. Mills are operating at an average of approximately 60 to 70 per cent of capacity and prompt shipments are available from that source of supply.

Wrought Iron Pipe

Almost the same conditions mark the wrought iron pipe business as prevail in the steel pipe market. The last manufacturers' price change was made at about the same time that steel pipe prices were changed, early in 1923.

LOW SOIL PIPE PRICES ARE WITHDRAWN

WITH the passing of the first half of the year and business already rounding into the home stretch sellers of plumbing and heating materials in nearly all sections of the country evidence a pleasing optimism and show little concern over the fact that the volume placed during the first six months was, in many instances, below that for the same period of last year. Many point to the fact that business has commenced to look up somewhat of late and feel that a great part of the loss in volume will be made up before the year ends. Especially is this true in certain sections of New York City where labor disturbances cut down the consumption of material to no small degree. Since the adjustment of these difficulties sales have stepped up considerably and indications are that June will compare quite favorably with the same month of last year.

The development of greatest note at the time of going to press was the announcement by the large soil pipe foundry, which recently reduced prices approximately 10 points, of its withdrawal of all prices on soil pipe and fittings. Earlier in the week those manufacturers who had been taking business at a price 5 points above the low sheet of this one maker, issued new sheets incorporating this change. Several large manufacturers also reduced prices on malleable fittings and on cast iron screwed, drainage and flanged fittings, effective July 1.

May shipments of enameled sanitary ware, according to the Department of Commerce, totaled 374,519 pieces, as compared with 373,288 pieces in April and 424,156 pieces in May, 1926. May shipments of vitreous chinaware were 275,613 pieces as compared with 251,377 in April and 293,010 in May, 1926.

Demand during the last seven days maintained about the same level as during the past few weeks, only a slight fluctuation being felt from week to week with the average movement normal for the season. Jobbers continue to order pipe in quantities commensurate with their actual needs, and, in general, are able to secure early deliveries from mills.

Enameled Ware

May shipments of enameled sanitary ware, as reported to the Department of Commerce by the twenty-two manufacturers who comprise the entire industry, totalled 374,519 pieces, as compared with 373,288 pieces in April and 424,156 pieces in May, 1926. While the above figures indicate a slight falling off in shipments for this May, compared to May, 1926, current demand continues to maintain a steady level, although, for the period following the above report too, manufacturers state that the volume is below that experienced for the same period of last year. Jobbers in general are paying little heed to their future requirements and are ordering goods mainly as definite needs are created. Early deliveries are available from manufacturing plants. Prices have not changed.

Pottery

May shipments of vitreous china plumbing fixtures, including all vitreous chinaware which in regular practice is connected with a drainage system, as reported by thirty-three manufacturers to the Department of Commerce, were 275,613 pieces, as compared with 251,377 pieces in April and 293,010 in May, 1926. Demand for staple ware maintained much the same level during the week as for the previous seven days, and, taken as a whole, the total volume is only slightly under that moved during the like period of last year. Wholesalers are not anticipating their future needs for staples, and are regulating their purchases to definite requirements. A fairly good demand is reported for specials. Prompt deliveries are being made on most staple items. No price changes were announced during the week by manufacturers.

Plumbers' Brass Goods

A number of manufacturers' representatives, in speaking of current business, are quite optimistic, stating that the last few weeks have seen an improvement in demand, although the total volume placed so far this year is below that of the same period of last year. The price situation is perhaps the most unfavorable factor marking the brass business, as reports of price shading continue to be heard not infrequently. Close range buying is still being indulged in by nearly all jobbers, who are maintaining only heavy enough stocks to safely meet their ordinary requirements. Prices have not changed.

Range Boilers

No change of any note is evident in the range boiler market for the past week. Wholesalers continue to hold their stocks at a minimum working level, depending on the good stocks at manufacturers' plants and warehouses for prompt delivery of boilers when the necessity arises. No price changes were announced by makers during the past week.

Boilers and Radiators

New orders for 1,409 steel boilers were placed in May, as reported to the Department of Commerce by 72 manufacturers comprising most of the leading firms in the industry, as compared with 1,551 boilers in April and 1,413 in March. Most manufacturers state that a good seasonal demand prevails for boilers and radiators, adding that the first half of the year compares very favorably with the same period of last year. No price changes have been announced and prompt shipments are available from manufacturers.

NEW YORK

Despite the comparatively light business that was closed early in June, due in part to the disruption caused by the labor disturbance which endured well along in the month, a review of the plumbing and heating materials market gives this period a fairly good position with June of 1926 owing to the fact that sales stepped up considerably in the closing weeks. This improvement in the instances of many products continues to be in evidence.

Manufacturers in nearly all lines have adequate stocks on hand to care for the numerous relatively small rush shipment orders reaching them from jobbers who, as a whole, are buying mostly for business that is actually in sight. This is simply a reflection of the method of making engagements followed by plumbing and heating contractors who hold off until the last minute when placing their orders.

An analysis of building activity made on a comparative basis with last year at this time discloses a greater number of single and double-family houses in the course of construction and a lesser number of large multi-family dwellings and office building projects being erected. The readiness with which loans are obtainable is visible in the large numbers advanced throughout the Greater New York area.

Taken as a whole the resale prices of wholesalers are somewhat firmer, but still reports of instances of shading are noted.

Soil Pipe

Several eastern soil pipe foundries have met the 10 point decline in price recently established by one large factor and several of the southern foundries have notified the trade that their base prices have been lowered five points. The latest development at the time of going to press was the withdrawal of all prices by the foundry which first announced the 10 point decline. No tremendous amount of cast pipe is being consumed but at the same time the many small orders filled by makers aggregate a fair tonnage. Jobbers' stocks are light but adequate to care for the requirements of their trade. Most foundries are shipping immediately.

Steel Pipe

The slightly increased demand recorded last week continues to hold for this week, due largely to the full return to the market of the Brooklyn jobbers who have bolstered up the volume reaching manufacturers. While some of the business forwarded comprises direct-to-the-job tonnage, it is a minor part with the bulk of it designated for stock in what is looked upon as small lots. Mills remain in position to ship as wanted. Their quotations are unchanged and steady, as are those coming from wholesalers in most cases.

Wrought Iron Pipe

The end of June saw a fairly good tonnage of wrought iron pipe shipped into this territory for the month. However, it lacked considerable in comparison with the same period of last year. For that matter the first half of this year is off somewhat in tonnage. Jobbers are maintaining stock levels commensurate with the demands made on them by their trade, which are more or less irregular in volume. Mills have substantial assorted stocks and can offer prompt deliveries. Prices are firm and unchanged. Quotations from wholesalers are also at this time giving a better account of themselves.

Enameled Ware

Wholesalers continue to stock ware in quantities only large enough to maintain their inventories at a safe level and of necessity are frequently placing orders for small lots. This buying, included with the occasional direct-to-

the-job placements, precludes a good volume. Future commitments comprise only a small portion of the trading; thus the major portion of this volume is due to the day-to-day consumption of the plumbing contractors. Prices are unchanged. Deliveries are satisfactorily prompt.

Pottery

Small orders for pottery are taken care of promptly by makers, thus enabling jobbers, whose stocks for the most part are light, to maintain a like position with their trade. Included in the week's business were lettings for pottery intended for buildings under construction. Telephone inquiries received in the New York offices of manufacturers seemed more numerous during the week than for some time past. All in all, present shipments of this commodity and its future outlook contribute a good aspect to the market. No changes have been made in prices.

Plumbers' Brass Goods

This market continues to be favorable to the buyer, especially in the instance of cast brass goods, as added discounts beyond existing sheets are offered by many manufacturers. The volume of brass goods moving continues at much the same high rate that has been characteristic of it for the past several weeks. The commitments from most jobbers are accompanied by specified shipping dates strung out over short intervals. Stocks on the shelves of jobbers are not heavy, but in many cases well assorted, while those at the factories are such that shipments are made satisfactorily. Prices remain unchanged.

Range Boilers

Wholesalers are buying range boilers in quantities only large enough to insure themselves against shortages. The volume created by this demand is not large and has shown little or no change from week to week. The requirements of plumbing contractors are similar as their interest is quickly reflected to manufacturers, due to the light stocks carried by jobbers. Factory stocks are good; consequently shipments are readily obtained. Prices remain unchanged.

Boilers and Radiators

A light decline in the demand for heating equipment was seen during the week by some manufacturers, while others insist that little change was felt over the satisfactory volume that has endured for some time past. Stocks at the sources are such that no delivery extensions are felt. Prices remain unchanged.

PHILADELPHIA

Those contractors and wholesalers who had totaled their June figures at the time this report was written are practically unanimous in reporting a slight increase in business over that enjoyed during May, but also state that the month's figures in many cases fall below those of the same period in 1926. A fair proportion of the houses and apartments under construction have now reached the stage where plumbers are starting to install finishing material and this has resulted in an increase in the call for this type of equipment. Due to the fact that many wholesalers had not stocked heavily, this condition is already being felt by manufacturers of enameled ware, plumbers' brass goods and other products that are commonly known as finishing goods.

At the present time no particular part of the territory seems to be profiting much more than other sections. Manufacturers' representatives state that the demand from wholesalers seems to be fairly well distributed, with the weakest part of the district apparently being the southern end, where slowness in demand is still much in evidence. However, a more hopeful tone is evidenced in Washington and environs, although this has not yet developed into actual placement of any considerable amount of business.

Prices generally have shown little change during the week, the exception being in soil pipe, where some of the foundries which had not changed their sheets at the time of last week's report have since made some reductions, putting their quotations more in line with lower bases. Shipments of products covered by this summary can be made quickly, in most instances.

Soil Pipe

Some of the foundries which were 10 points higher than their lowest quoting competitors reduced their figures five points during the week. Considerable business was placed at the lowest reported base, other makers reporting a not unnatural sluggishness in demand. The average foundry finds no difficulty in shipping the ordinary order without delay.

Steel Pipe

Many of the steel mills enjoyed an especially good business in June, 1926, and for this reason their shipments for this month will fall below those of the same period last year. Orders continue to be placed, in large measure, only for definite jobs or when wholesalers' pipe yards approach stock depletion. Neither manufacturers nor wholesalers have changed prices. The average maker can ship promptly.

Wrought Iron Pipe

Makers of wrought iron pipe will come close to making their quotas for this district for the month just closed, enough small orders coming through from wholesalers the last of the month to bring the total volume to close-to-normal amounts. Shipments continue to be made shortly after orders are received. Prices have not been changed by either makers or distributors.

Enameled Ware

Shipments of enameled ware show a slight increase from week to week, as the finishing season on plumbing goods gets under way. Wholesalers are not committing themselves for future requirements to any considerable extent, but definite orders from contractors amount to enough volume to make the current needs of distributors fairly large. Demand from Philadelphia proper is apparently better than from other sections. Prices have not been changed since last week. Makers are able to make prompt shipments.

Pottery

Although contractors are beginning to need some pottery, much of it had been contracted for in advance and the current demand continues to be rather light. Where special ware is required, earlier placed orders are necessary and many wholesalers had fair stocks of pottery on hand when prices on some staples were reduced some weeks ago. One potter states June has been better than last May from the standpoint of shipments, another of about the same production reports a decrease in deliveries. Staple ware can be shipped without delay in most instances.

Plumbers' Brass Goods

One of the larger producers states that the last three weeks of the month have shown a considerable increase in demand for tubular products, and another maker has received a good volume of orders for specials. Shipments of cast brass also show a slight increase with the additional demand for finishing goods, but current call for this type of brass shows little improvement. Price conditions have not changed, staple items of tubular goods continuing to show price weakness at times, and cast brass quotations holding about the same level. The average manufacturer has large enough inventories to ship without delay.

Special Notice to Plumbing

The manufacturers whose names appear below and on the opposite page have authorized us to send to the plumbing and heating contractors, upon request, their loose catalog sheets for use in the binders distributed through the National Trade Extension Bureau.

These loose sheets are reprints of catalog pages appearing in "Domestic Engineering Catalog Directory." They are uniform in size —8½x10⅝ inches—printed on a good grade of light paper and punched to fit the binder.

If you have the binder and desire loose catalog sheets, write Domestic Engineering Co., 1900 Prairie Avenue, Chicago, on your letterhead, giving the names of concerns listed below whose lines you are interested in, and we shall be glad to send you the sheets without charge. If you are not using the binder and wish information regarding it, write to the National Trade Extension Bureau of Evansville, Indiana.

Abendroth Bros. ..... Port Chester, N. Y.
Acme Adjustable Pipe Hanger Mfg. Co. ..... Richmond, Va.
Acme Asbestos Covering & Flooring Co. ..... Chicago, Ills.
Acme Frost Proof Closet Mfg. Co. ..... Baltimore, Md.
Albrass Co. ..... Coxsackie, N. Y.
American Brass Co. ..... Waterbury, Conn.
American Manganese Bronze Co. ..... Holmesburg, Pa.
American Pipe Tool Co. ..... Chicago, Ills.
American Radiator Co. ..... Chicago, Ills.
American Spiral Pipe Works ..... Chicago, Ills.
American Steam Pump Co. ..... Battle Creek, Mich.
Armstrong Bros. Tool Co. ..... Chicago, Ills.
Armstrong Mfg. Co. ..... Bridgeport, Conn.
Automatic Gas Steam Radiator Co. ..... Pittsburgh, Pa.
Badger & Sons Co., E. B. ..... Boston, Mass.
Barnes Tool Co., The ..... New Haven, Conn.
Barrett Mfg. Co., James ..... Boston, Mass.
Bashlin Co. ..... Warren, Pa.
Bay Ridge Specialty Co., Inc. ..... Trenton, N. J.
Beaton & Cadwell Mfg. Co., The ..... New Britain, Conn.
Beaton & Corbin Mfg. Co., The ..... Southington, Conn.
Becker Mfg. Co., The ..... Marietta, Ohio
Beneke Mfg. Co. ..... Chicago, Ills.
Benson Co., Inc., Alex R. ..... Hudson, N. Y.
Bignall Co., The ..... Medina, N. Y.
Blake Specialty Co. ..... Rock Island, Ills.
Blue Seal Chemical Co. ..... Roselle, N. J.
Boosey Mfg. Co., Norman ..... Detroit, Mich.
Borden Co., The ..... Warren, Ohio
Bradley Washfountain Co. ..... Milwaukee, Wis.
BRE Mfg. Co. ..... Boston, Mass.
Bridgeport Brass Co. ..... Bridgeport, Conn.
Brunswick-Balke-Collender Co., The ..... Chicago, Ills.
Buffalo Gas Radiator Corp. ..... No. Tonawanda, N. Y.
Burnham Boiler Corp ..... Irvington, N. Y.
Butler Mfg. Co. ..... Minneapolis, Minn.
Butler, Thos. F. ..... Lorain, Ohio
Cabco Iron Works, Inc. ..... Gowanda, N. Y.
Capitol Brass Works ..... Detroit, Mich.
Carty & Moore Engineering Co. ..... Detroit, Mich.
Case & Son Mfg. Co., W. A. ..... Buffalo, N. Y.
Central Radiator Co. ..... New York City
Chamberlain Co., The ..... Pittsburgh, Pa.
Chemical Toilet Corp. ..... Syracuse, N. Y.
Chicago Faucet Co., The ..... Chicago, Ills.
Chicago Granitine Mfg. Co. ..... Chicago, Ills.
Chicago Pipethread Machine Co. ..... Racine, Wis.
Cleveland Brass Mfg. Co., The ..... Cleveland, Ohio
Columbia Radiator Co. ..... McKeesport, Pa.
Commonwealth Brass Corp. ..... Detroit, Mich.
Compound Injector & Specialty Co. ..... Chicago, Ills.
Conemaugh Iron Works ..... Latrobe, Pa.
Continental Heater Corp. ..... Dunkirk, N. Y.
Crampton-Farley Brass Co. ..... Kansas City, Mo.
Crist & Schilken Co. ..... Pittsburgh, Pa.
Croll & Son, Jesse G. ..... Philadelphia, Pa.
Crown Die & Tool Co. ..... Chicago, Ills.
Curtin Valve Co., A. F. ..... Medford, Mass.
Curtis & Curtis Co., The ..... Bridgeport, Conn.
Curtis Specialty Co. ..... Salt Lake City, Utah
Dahlquist Mfg. Co. ..... South Boston, Mass.
Dail Steel Products Co. ..... Lansing, Mich.
Dart Mfg. Co., E. M. ..... Providence, R. I.
Davis Engineering Corp. ..... New York City
Decatur Pump Co. ..... Decatur, Ills.
Dececo Co., The ..... Boston, Mass.
Detroit Lubricator Co. ..... Detroit, Mich.
Detroit Torch & Mfg. Co. ..... Detroit, Mich.
Dick Brothers, Inc. ..... Reading, Pa.
Dixie Flashing Co., Inc ..... Birmingham, Ala.
Dixie Metal Products Co., Inc. ..... Birmingham, Ala.
Dole Valve Company ..... Chicago, Ill.
Donley Mfg. Co., The ..... Cleveland, Ohio
Donnelly Mfg. Co. ..... Malden, Mass.
Dube Boiler Co. ..... Chicago, Ills.
Dunham Co., The ..... Berea, Ohio
Eastern Foundry Co., The ..... Boyertown, Pa.
Ebinger Sanitary Mfg. Co., D. A. ..... Columbus, Ohio
Economy Heater Co. ..... Chicago, Ills.
Economy Pumping Machinery Co. ..... Chicago, Ill.
Electro Engineering Co., Inc. ..... Richmond Hill, N. Y.
Eljer Co. ..... Ford City, Pa.
Elkhart Iron Works ..... Elkhart, Ind.
Enterprise Brass Works ..... Muskegon, Mich.
Estabrook's Sons, R. ..... South Boston, Mass.
Everitt Co., The ..... Boston, Mass.
Excelso Products Corp. ..... Buffalo, N. Y.
Exeter Brass Works ..... Exeter, N. H.
Florence Stove Co. ..... Boston, Mass.
Fritz Manufacturing Co. ..... Chicago, Ills.
Gerard Mfg. Co. ..... Dickson City, Pa.
Gerstein & Cooper Co. ..... South Boston, Mass.
Gerstein & Sons, H. ..... South Boston, Mass.
Gleockle, Jr., A. F. ..... Rochester, N. Y.
Goulds Pumps, Inc. ..... Seneca Falls, N. Y.
Graves, W. L. ..... Hatfield, Mass.
Greenfield Tap & Die Corp. ..... Greenfield, Mass.
Grinnell Co., Inc. ..... Providence, R. I.
Haas Co., Philip ..... Dayton, Ohio
Hammond Brass Works ..... Hammond, Ind.
Handon Boiler Corp. ..... New York City
Hays Mfg. Co ..... Erie, Pa.
Healey Brass Foundry Co., Peter ..... Evansville, Ind.
Heap & Sons, Wm. ..... Grand Haven, Mich.
Hercules Chemical Co., Inc. ..... New York City
Hetzel, J. G., Estate of ..... Newark, N. J.
Hindley Mfg. Co. ..... Valley Falls, R. I.
Hollands Mfg. Co. ..... Erie, Pa.
Holyoke Heater Co. ..... Holyoke, Mass.
Honeywell Heating Specialties Co. ..... Wabash, Ind.
Hotstream Heater Co. ..... Cleveland, Ohio
Hudson Brass Works, Inc. ..... Brooklyn, N. Y.

and Heating Contractors

Imperial Brass Mfg. Co. ..... Chicago, Ills.
Ireland & Matthews Mfg. Co. ..... Detroit, Mich.
J. R. S. Specialties Mfg. Co., Inc. ..... Patchogue, N. Y.
Jefferson Union Co. ..... Lexington, Mass.
Jenkins Brothers ..... New York City
Johnson Mfg. Co. ..... Detroit, Mich.
Johnson-Washburn Co. ..... Boston, Mass.
Jones Hollow Ware Co. ..... Baltimore, Md.
Josam Mfg. Co. ..... Cleveland, Ohio
Juvenile Wood Products, Inc. ..... Fort Wayne, Ind.
Keeney Mfg. Co., The ..... Newington, Conn.
Kelly Valve Co. ..... Grand Haven, Mich.
Kemp Mfg. Co., C. M. ..... Baltimore, Md.
Kennedy Valve Mfg. Co. ..... Elmira, N. Y.
Kenney-Cutting Products Corp. ..... New York City
Kent Co., F. C. ..... Irvington, N. J.
Keystone Brass Works ..... Erie, Pa.
Keystone Pottery Co. ..... Trenton, N. J.
Kitson Co. ..... Philadelphia, Pa.
Knott Mfg. Co. ..... Tell City, Ind.
Kokomo Sanitary Pottery Co. ..... Kokomo, Ind.
Kortick Manufacturing Co. ..... San Francisco, Cal.
Koven & Bro., L. O. ..... Jersey City, N. J.
Kretschmer Mfg. Co. ..... Dubuque, Iowa
Kupferle Foundry Co., John C. ..... St. Louis, Mo.
Lambertville Pottery Co. ..... Lambertville, N. J.
Lavelle Rubber Co. ..... Chicago, Ills.
Lawson Co., The F. H. ..... Cincinnati, Ohio
Lawson Mfg. Co. ..... Cleveland, Ohio
Leavitt Machine Co. ..... Orange, Mass.
Lenk Mfg. Co. ..... Boston, Mass.
Leonard-Rooke Co. ..... Providence, R. I.
Liquid Veneer Corp. ..... Buffalo, N. Y.
Lissberger & Son, Inc., Marks ..... Long Island City, N. Y.
Luzerne Rubber Co., The ..... Trenton, N. J.
McCoy Mfg. Co., Inc. ..... Garwood, N. J.
McGurrin Supply Co. ..... Grand Rapids, Mich.
McRae & Roberts Co., The ..... Detroit, Mich.
Maddock's Sons Co., Thomas ..... Trenton, N. J.
Manning, Maxwell & Moore, Inc ..... New York City
Mfg. Equipment & Engineering Co. ..... Framingham, Mass.
Martin & Sons, H. P. ..... Owensboro, Ky.
Marvel Machine & Brass Works ..... Cleveland, Ohio
Meneley-Diederich Co., Inc. ..... Los Angeles, Cal.
Michigan Pipe Co. ..... Bay City, Mich.
Milford Iron Foundry ..... Milford, Mass.
Milwaukee Valve Co. ..... Milwaukee, Wis.
Misener & Irving Mfg. Co., Inc. ..... Syracuse, N. Y.
Modern Utilities Co. ..... Harrisburg, Pa.
Modine Mfg. Co. ..... Racine, Wis.
Molby Boiler Co. ..... New York City
Morton Mfg. Co. ..... Chicago, Ills.
Nason Mfg. Co. ..... New York City
National Steel Tank & Mfg. Co. ..... Bradford, Ills.
Neptune Meter Co. ..... New York City
Newell Mfg. Co. ..... Irwin, Pa.
Niagara Radiator & Boiler Co. ..... North Tonawanda, N. Y.
Northwestern Chemical Co., The ..... Marietta, Ohio
Nustone Products Corp. ..... Union City, N. J.
Nye Tool & Machine Works ..... Chicago, Ills.
Ohio Heater Co., The ..... Columbus, Ohio
Paine Co. ..... Chicago, Ills.
Para Rubber Co. ..... Newark, N. J.
Penn Engineering Co., The ..... Philadelphia, Pa.
Phoenix Brass Foundry ..... Irvington, N. J.
Pittsburgh Engineering Co ..... Jeannette, Pa.
Plummer-Huff Company ..... Napoleon, Ohio
Plomb Tool Co. ..... Los Angeles, Cal.
Polygon Products Co. ..... Boston, Mass.
Powers Regulator Co. ..... Chicago, Ills.
Providence Fittings Co., The ..... Boston, Mass.
Randolph-Clowes Co., The ..... Waterbury, Conn.
Rawlplug Co., Inc., The ..... New York City
Reading Brass Works ..... Reading, Pa.
Reed Mfg. Co. ..... Erie, Pa.
Reeves Specialty Co. ..... Denver, Colo.
Rhode Island Fittings Co. ..... Providence, R. I.
Richmond Engineering Co. ..... Richmond, Va.
Richmond Foundry & Mfg. Co., Inc. ..... Richmond, Va.
Ridge Tool Co. ..... Elyria, Ohio
Riverside Foundry & Galvanizing Co. ..... Kalamazoo, Mich.
Roberts Brass Mfg. Co., The ..... Detroit, Mich.
Robinson Mfg. Co., The ..... Cleveland, Ohio
Rockford Brass Works ..... Rockford, Ills.
Royal Brass Mfg. Co., The ..... Cleveland, Ohio
Rumsey Pump Co., Ltd. ..... Seneca Falls, N. Y.
Russell Mfg. Co., Inc., John M. ..... Naugatuck, Conn.
Russell & Co., W. A. ..... New York City
Rutland Fire Clay Co. ..... Rutland, Vt.
Sanitary Bath Curtain Mfg. Co., Inc ..... New York City
Sanitas Mfg. Co. ..... Boston, Mass.
Sarco Co., Inc. ..... New York City
Scaife & Sons Co., Wm. B. ..... Oakmont, Pa.
Scott Valve Mfg. Co. ..... Detroit, Mich.
Sherwood Brass Works ..... Detroit, Mich.
Simplex Mfg. Co. ..... Chicago, Ills.
Smith, Inc., H. Romeyn ..... New York City
Standard Stone Co. ..... Brooklyn, N. Y.
Standard Tank & Seat Co. ..... Camden, N. J.
Standard Union Co. ..... Boston, Mass.
Standard Water Systems Co. of N. J. ..... Hampton, N. J.
Stark Pump Co. ..... Detroit, Mich.
Sterling Faucet Co. ..... Newcomerstown, Ohio
Stringer Brothers Co. ..... Chicago, Ills.
Structural Slate Co. ..... Pen Argyl, Pa.
Superbestos Co., The ..... Chicago, Ills.
Swett Iron Works, A. L. ..... Medina, N. Y.
Taylor Co., Halsey W., The ..... Warren, Ohio
Teck Manufacturing Co. ..... Chicago, Ills.
Test-Tite Co. ..... Philadelphia, Pa.
Thatcher Co. ..... Newark, N. J.
Thermal Appliance Co., Inc. ..... New York City
Tillery's Little Janitor Clock Co. ..... Newark, N. J.
Toledo Pipe Threading Machine Co. ..... Toledo, Ohio
Trageser Steam Copper Works, John ..... New York City
Trenjer Specialty Co. ..... Trenton, N. J.
Trenton Brass & Machine Co. ..... Trenton, N. J.
Tryco Products, Inc. ..... Westfield, Mass.
Universal Smokeless Boiler Co. ..... Ravenna, Ohio
Van Arnam Mfg. Co. ..... Fort Wayne, Ind.
Vanderman Mfg. Co. ..... Willimantic, Conn.
Vinco Co., Inc. ..... New York City
Vogel Co., Joseph A ..... Wilmington, Del.
Wade Iron Sanitary Mfg. Co. ..... Chicago, Ills.
Walker Dishwasher Corp. ..... Syracuse, N. Y.
Walworth Company ..... Boston, Mass.
Ware Coupling & Nipple Co. ..... Ware, Mass.
Warnock Manufacturing Co. ..... Worcester, Mass.
Warren Tool & Forge Co. ..... Warren, Ohio
Washington Metal Products Co. ..... Washington C. H., Ohio
Wesely Co., Chas. ..... Chicago, Ills.
Wessels & Sons, D. D. ..... Detroit, Mich.
Western Wire Products Co. ..... St. Louis, Mo.
Wheeling Machine Products Co. ..... Wheeling, W. Va.
White Flushing Valve Mfg. Co. ..... Denver, Colo.
White Steel Sanitary Furniture Co ..... Grand Rapids, Mich.
Whitlock Coil Pipe Co. ..... Hartford, Conn.
Wilks Mfg. Co., S. ..... Chicago, Ills.
Williams, George E. ..... Minneapolis, Minn.
Williams & Co., J. H. ..... Buffalo, N. Y.
Wood Mfg. Co., John ..... Conshohocken, Pa.
Woodward-Wanger Co. ..... Philadelphia, Pa.
Worcester Brush & Scraper Co. ..... Worcester, Mass.
"X" Laboratories ..... New York City
Yeomans Brothers Co. ..... Chicago, Ills.
Yost Mfg. Co. ..... Meadville, Pa.

Range Boilers

It is stated that most sales of range boilers at this time are being made on the September 1, 1926, sheet. Jobbers generally are buying range boilers in very small lots, taking in only enough to fill orders on file or expected momentarily. Early deliveries can be made.

Boilers and Radiators

There has been an active demand for large sized boilers for some little time, and recently the demand for the smaller types has shown an increase, as homes of the operation type reach the stage where boilers and radiators are to be installed. Prices are maintaining the same level as has been in effect for some weeks. Makers are holding stocks up to a level that permits quick shipments.

NEW ENGLAND

Although building operations in this section for the first half of the year show a lesser total than for the corresponding period of 1926, it is generally believed, from present indications, that the plumbing and heating industry will be actively engaged in the succeeding months to such an extent that volumes for the whole year will compare favorably with those of last year, or in some instances will not be far behind. Everywhere there is evidence of increases in residential construction, both in private propositions and in speculative developments.

Sources are in almost all cases producing sufficiently to satisfy whatever requests for immediate shipments are asked. Jobbers' stocks of finishing material, such as enameled ware, pottery and brass goods, are more sizeable than they have been for some months, due mainly to the constantly improving demand for these items from their trade. Interest in other materials, with the exception of soil pipe, is not especially active, but wholesalers are moving sufficient quantities to afford makers good volume in replacement orders. Forward buying continues light, orders reaching mill and factory representatives being mostly for quick delivery and for the immediate needs of jobbers.

Prices on the whole are firm, with usual concessions being granted when sizeable orders are placed. Wholesalers effected slight reductions in staple earthenware to their trade. Price fluctuations in soil pipe are noted below.

Soil Pipe

Much attention is being focused on the price situation of the soil pipe market. Closely following the 10-point reduction effected last week by certain foundries, jobbers received notifications of a 5-point advance, which at this writing has not been adopted universally. Following the announcements of a decline by makers, wholesalers revised their out-of-stock prices, incorporating an approximate 5-point reduction. The present policy of the average foundry is to accept only bona fide orders for shipment at their convenience and blanket specifications for future delivery are not being considered. Makers have been in receipt of exceptionally good business immediately after reductions in prices were made. Jobbers in general have good stocks on hand and quick shipments may be had.

Steel Pipe

Mills are operating steadily, production being generally estimated at about 70 to 75 per cent of capacity. Distributors are carrying only medium-sized stocks and spurts in demand from their trade result in quick shipment requests which are usually granted from ample reserves at sources. Practically no future delivery business is being transacted. Prices are firm and unchanged.

Wrought Iron Pipe

The volume of business done so far this year is not quite so heavy as it was during the first half of 1926, according to sales records of several makers. Distributors continue to order only for their actual needs and their chief interest is the maintenance of well assorted racks. Mill stocks are in good shape and no delays are reported in shipments. No price changes have been made and the market is firm.

Enameled Ware

A continuation of better interest in the maintaining of good stocks by wholesalers is reported. Makers are generally acquiring satisfactory volume even though no unusually large shipments are being made. Practically all transactions are for immediate delivery and stocks at factories are in such condition as to warrant quick service. Local warehouses of makers are well filled and quickly relieve any emergencies which might exist. Prices are unchanged.

Pottery

Even though jobbers are coming into the market only when actually necessary and then ordering in moderate quantities, potters feel more or less satisfied in that the total amount of ware being consumed aggregates good volume. Finishing operations of new construction are more evident and have occasioned wholesalers to build up their stocks of staple ware. Sales of specials continue to please most makers and considerable time is being spent in quotation work which looks well for the future. Good assortments at sources and at jobbing points assure deliveries as wanted. Out-of-stock prices of staple bowls and tanks were reduced by jobbers last week. Pottery prices have not changed.

Plumbers' Brass Goods

Wholesalers are displaying more tendencies to anticipate their future requirements of brass goods than of any other commodity and at the same time are carrying good assortments on their shelves. Makers of tubular items report good volume during the past several weeks, while little variance in the moderate demand for cast brass is noted. There are good stocks at points of manufacture and no delays in shipments are encountered. Prices are unchanged.

Range Boilers

Reports from manufacturers are practically repetitions of conditions as set forth last week. Wholesalers' orders are largely dictated by the demand from their customers, the tone of which shows but little variation from week to week. Consequently there are no large stocks accumulated at distributing points and withdrawals from makers' warehouses are mainly for fill-in purposes. Deliveries from sources are not delayed in so far as production is being maintained at high levels and good reserve stocks are kept. Prices are firm and unchanged.

Boilers and Radiators

A fair seasonal demand for heating equipment is reported, although three different manufacturers have found the past week rather quiet. There are no exceptions to prevailing quick deliveries offered from sources and abundant stocks at local warehouses of makers are being maintained. One maker states that he has encountered shading of prices, but the market is generally firm, no price changes attending.

Mankota, Minn.—The Cuddy Plumbing & Heating Co. has been awarded the plumbing and heating contracts on a three-story apartment building being built here by Bernard Kahn, 56 Summit avenue West, St. Paul, Minn., at a cost of $80,000. Kenneth B. Worthen, 648 Endicott building, St. Paul, is the architect.

PACIFIC COAST

The past week finished the first six months of 1927, and, taken as a whole, business was fair. Although it did not come up to the expectations of some, it was better than expected by others. The normal growth of the Pacific Coast cities has not been hindered in any way and as long as this growth continues there is bound to be a certain amount of business. Price conditions surrounding the various jobbing centers vary, the market being more stable in some territories than in others. Declining prices have not had a tendency to cause any purchasing outside of what is actually required for immediate installation or to sort up distributors' stocks.

Soil Pipe

The recent price decline has not caused buyers to come into the market to any great extent. Most distributors have well assorted stocks and a fair amount of tonnage enroute from foundries. Prompt deliveries can be had when necessary.

Steel Pipe

No large movement of steel pipe is noted and the tonnage varies little from week to week. Taking into consideration the number of distributors of this commodity, however, the gross tonnage moved on the Coast is practically up to normal. Distributors generally have well assorted stocks and early delivery can also be obtained on all mill shipments. Prices remain unchanged.

Enameled Ware

Enameled ware continues to move only in such quantities as the trade requires for actual installation, with very little if any forward buying being done. Most distributors are continuing their policy of carrying only minimum stocks and replacing merchandise, as soon as sold, from nearby manufacturers' plants or warehouses. Prices to the trade remain unchanged.

Pottery

Little change in the demand for pottery is noted, with the trade purchasing only such material as is actually needed and no forward buying of any consequence being done. Most distributors' stocks are at a minimum and, in general, they are depending upon the prompt delivery service offered by potters. Prices to the trade remain unchanged.

Plumbers' Brass Goods

There continues a good movement of brass goods which, however, is being distributed by so many agencies that the individual sales are quite small. Stocks in distributors' hands are sufficient for requirements and prompt shipment can also be obtained from nearby manufacturing sources on practically the entire line of cast goods. Prices to the trade continue at a low level and remain unchanged.

Range Boilers

A moderate demand continues for range boilers. Stocks in distributors' hands are sufficient for present requirements and prompt shipment can also be obtained from factories. Prices to the trade, which are based on present to the trade continue at a low level and they are remaining unchanged.

W. F. Davis Called by Death

W. F. Davis, who was chief city plumbing inspector in Denver, Colo., for nineteen years, died of acute appendicitis at St. Luke's hospital in that city, on Monday evening, June 27. Mr. Davis was in his fifty-fourth year and unmarried. He had recently been engaged in the contracting business and was a brother of Archie Davis, one of the proprietors of the Johnson & Davis Plumbing Co., Denver. Besides his brother, he is survived by three sisters.

The Stock Market

Quotations furnished by Frazier, Jelke & Co., Chicago

Par Value	1927 High	1927 Low	Quotations of July 1, 1927	*	Bid	Asked	Last
25	126	110½	American Radiator Co., com	A	121¾	122	121¾
100	137½	133	American Radiator Co., pfd	A	137	137½	137½
50	48½	42	Anaconda Copper Mining Co	A	42½	43	42⅞
NP	.....	.....	Brunswick-Balke-Collender Co	A	26	27	26⅞
NP	82	62	A. M. Byers Co., com	A & F	75¼	78½	75
100	110	106	A. M. Byers Co., pfd	A & F	110	.....	110
100	120	115½	Century Electric Co., com	G	115	.....	116
100	106	101	Century Electric Co., pfd	G	100	103	101
50	48½	43⅞	Chicago Nipple Mfg. Co., "A"	B	48¼	48¾	48½
50	36½	31	Chicago Nipple Mfg. Co., "B"	B	35½	35½	35¾
25	52	47	Crane Company, com	C	48	49	48
100	120	107¾	Crane Company, pfd	C	120	121	120
100	95	84½	Detroit Brass & Malleable Works	D	90	95	95
20	30	26½	Eagle-Picher Lead Co	I	26	26¼	26¼
NP	42¾	35	Fairbanks, Morse & Co., com	A	38	38½	38
100	118	.....	Fairbanks, Morse & Co., pfd	A	110	112	118
NP	81	60	Johns-Manville Corp	B	79	79½	79
100	161	100	Jones & Laughlin, com	F	155	.....	155½
100	120	117	Jones & Laughlin, pfd	F	121¼	122	121¼
10	21	16	Michigan Copper & Brass Co	D	19	20	20
100	200	96½	National Lead Co., com	A	95¾	96¼	96½
100	132¼	117¼	National Lead Co., pfd	A	131¾	132	132
100	106	102	Ohio Brass Co., pfd	H	106	.....	106
NP	101	83	Ohio Brass Co., "B"	H	82	83	83
25	.....	.....	Pierce, B. & P. Mfg. Corp., com	U	24	27	24
100	101	99	Pierce, B. & P. Mfg. Corp., pfd	U	99	102	100
NP	27¾	21½	Richmond Radiator Co., com	B	27½	28	27¾
NP	56	46	Richmond Radiator Co., pfd	B	41¼	41¾	41½
100	65	53	Scovill Mfg. Co	U	53	56	53
25	96	78	Standard San. Mfg. Co., com	F	78	82	78
100	118¼	110	Standard San. Mfg. Co., pfd	F	115	.....	.....
100	.....	.....	Trenton Potteries Co., com	U	45	55	47
100	.....	.....	Trenton Potteries Co., pfd	U	95	105	99
100	237	202	U. S. Cast Iron P. & F. Co., com	A	231	232	231½
100	116	112	U. S. Cast Iron P. & F. Co., pfd	A	115½	116	116
NP	42	38	U. S. Radiator Corp., com	D	38	38½	38½
100	112	96¼	U. S. Radiator Corp., pfd	D	95¾	96¼	96¼
100	65½	40¾	U. S. Rubber Co., com	A	44½	45	45
100	103	96¼	U. S. Rubber Co., pfd	A	90¾	91½	91½
100	130	119	U. S. Steel Corp., com	A	119¼	119¾	119¾
100	133	129	U. S. Steel Corp., pfd	A	132½	133	133
NP	27	18	Walworth Company	A	18¾	18⅞	18⅞
NP	15¾	11	Williams Oil-O-Matic Htg. Corp	C	12	13	10⅞
NP	7	4½	Wolff Mfg. Corp	C	4¾	5½	5
NP	97¼	83¾	Youngstown Sheet & Tube Co	A	83¾	84	83¾

*Where listed—

A—New York Stock Exchange
B—New York Curb Exchange
C—Chicago Stock Exchange
D—Detroit Stock Exchange
E—Boston Stock Exchange
F—Pittsburgh Stock Exchange
G—St. Louis Stock Exchange
H—Cleveland Stock Exchange
I—Cincinnati Stock Exchange
U—Unlisted Stocks

The Metal Market

	May 31 July 5	Average Mar., 1927 May, 1927	Average Jan., 1927 Mar., 1927	Average 1926 1926
PIG IRON—				
No. 2 foundry, Chicago, Furnace	$20.00	$20.00	$20.00	$21.65
PLATES AND SHEETS—				
Steel boiler plates, Pittsburgh, per lb.	1.80c	1.85c	1.90c	1.89c
Blue annealed sheets, No. 10, Pittsburgh, per lb.	2.25c	2.25c	2.20c	2.40c
Black sheets, No. 24, Pittsburgh, per lb.	3.00c	2.90c	2.90c	3.17c

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Bedford, Mass.—The town taxpayers, at a special town meeting, have voted an appropriation of $137,500 for the construction of a junior high school and auditorium on a two-acre plot of land that has been donated for the purpose. According to the plans of Derby & Robinson, Boston architects, the main school building will be 109 ft. in length and 68 ft. in width, with an addition 54 by 45 ft. The structure will be of water-struck brick and construction will begin as soon as bids can be awarded.

Smoke and Pneumonia

DWELLERS in the majority of American cities have long been aware of the discomfort, inconvenience and expense caused by the smoke-laden atmosphere in which they are enveloped. It is only recently, however, that the "smoke evil," as it is termed, has been investigated from the point of view of public health.

Public health and city smoke was discussed at Pittsburgh, Pa., recently by William Charles White, M. D., pathologist, U. S. public health service, and chairman, medical research committee, National Tuberculosis Association. Dr. White suggested the city of Pittsburgh as a suitable experiment center for a co-operative plan of research to determine definitely the effect of smoke upon health. In discussing what is already known of smoke conditions in Pittsburgh, Dr. White said:

"In 1914 a group of men undertook a study of the smoke conditions in Pittsburgh. This was made possible by a fund of $10,000 provided by R. B. Mellon. Pittsburgh provides in exaggerated form a constant natural environment and atmosphere of the type that should give the answer to the questions considered in this paper. It is an ideal place to pursue the study of the influence of smoke on diseases of the lungs. Any conclusion drawn from such studies, however, to have influence, must be so graphic as to overcome other great factors. As you know, smoke means active business, profit to owners, and high wages to workers. In 1907, when first I went to Pittsburgh, there was depression in the mills and everyone in this period longed for more smoke as the evidence of prosperity.

"Pittsburgh presents two striking facts. It has a low tuberculosis death-rate year after year. On the other hand, it has the highest constant pneumonia death-rate of any community in the world. Furthermore, in analyzing the pneumonia death-rate of the city by wards, it became clear that the denser the smoke content of the air, the higher is the pneumonia death-rate. With respect to tuberculosis, on the contrary, the density of smoke seemed to bear no relation to the tuberculosis death-rate. If one could reason safely from this study, he would say that smoke has no influence on tuberculosis but has a tremendous influence on acute lung diseases. This is probably near the truth, but we have not yet enough evidence to make such a statement. The analysis recently carried out by Dr. Thompson of the U. S. public health service indicates that there is an industrial health hazard in work in the steel mills that has a definite relation to the high pneumonia mortality in Pittsburgh.

"Pneumonia as a basis of argument for the prevention of smoke has never been very successful. This is undoubtedly due in large part to the lack of definite knowledge as to the effects that smoke has on health in causing or promoting diseases. In general, wherever efforts are being made by communities with a smoke nuisance to prevent smoke, such efforts are based on consideration of discomfort rather than health. If it can be definitely proved, as the above study indicates, that smoke causes a high death-rate from pneumonia, although the public has never appreciated the importance of acute respiratory diseases due especially to their after-effects, this will be a powerful argument for prevention of smoke.

"Before explaining the experimental work that justifies the statement that the breathing of smoke-laden atmosphere has no demonstrable influence on tuberculosis but is of importance as a baneful factor in pneumonia and other acute diseases of the nose, throat and lungs, I would like to present for consideration a bit of evidence that I have tried as a measuring rod upon the basis of supply and demand. If acute diseases of the upper air passages, such as colds, laryngitis, rhinitis, pharyngitis and bronchitis are more prevalent in a smoky atmosphere, one would expect to find the number and wealth of physicians who devote themselves exclusively to the treatment of these diseases to be greater in Pittsburgh than in cities of the same size but without a smoky atmosphere. As designated by the register of American physicians, the nose and throat specialists are: For Pittsburgh, 41 for a population of 580,000; for Baltimore, 40 for a population of 730,000. These figures show that Pittsburgh as a market provides for a similar number of such practitioners, although Baltimore is a city one-fourth larger. Those of you who have indulged in the luxury of sprays, swabs and much surgery know that this is a great added expense to the citizens of any community.

"Perhaps more convincing than this are the data that resulted from a study which I made of eight city squares in Pittsburgh, compared with the rest of the city. The eight squares chosen were in one of the low river-level wards on the South Side in the mill district. The outstanding observation in this district was the prevalence of acute respiratory diseases, children with running noses, running ears, and all the attendant sequelae of a constantly infected respiratory tract. As a health hazard, this can not be overestimated, and it is a convincing argument against smoke if it can be shown definitely that the smoke is the primary factor in causing the conditions observed.

"As part of the Pittsburgh study, the work of Klotz, Hayborn and Holman gives sound scientific basis for the contention that smoke is a large factor in the prevalence of acute respiratory diseases, and all the suffering that follows these infections. Their observations have been verified both before and since by many other workers, but especially by Mavrogordato, whose careful studies merit special attention.

"Such limited evidence is indicative but not conclusive. Here, again, we must conclude that we have nothing sufficiently convincing to leave no doubts in the public mind for the contention that smoke must be controlled from the point of view of its influence on public health."

When Contract Becomes Effective

In the absence of evidence to the contrary, an instrument (contract) is supposed to become effective on the date it bears. This is merely a presumption, however, and may be rebutted by evidence. Even in case of a deed, the actual date of delivery may be shown, and if the time of delivery is different from the date of the instrument, the deed is effective only from the date of delivery.—Supreme Court of Appeals of West Virginia, in Hawley v. Levy, 128 Southeastern Reporter, 735.

Shipment and Acceptance Under Unenforceable Offer

An offer to sell goods may be so indefinite and so lacking in mutuality as not to be capable of enforcement, yet where under the agreement to sell, goods are ordered and the order is accepted, and the goods are shipped and received, liability may not be escaped upon the ground that the contract was lacking in mutuality.—Court of Appeals of Georgia, in Coker v. Shelton Mills, 128 S. E. Rep., 695.

Expenses of Partner on Trip

When, in an action for an accounting, the court found as a fact that on the same trip when he was engaged in the business of the partnership a partner also engaged in business of a large and substantial character for himself, it would be justified in concluding as a matter of law that the partnership should bear only one-half of the expenses.—Supreme Court of Washington, in Quigley v. Barash, 237 Pacific Reporter, 732.

T. E. B. Campaign Looks to Industry's Progress

(Continued from Page 28)

The New Competition

We always have had and always will have the competition of manufacturer against manufacturer; jobber against jobber; retailer against retailer, but today we have an additional new, and menacing to us, competition of over one hundred industries, powerfully financed and nationally organized to get, through alluring and interesting advertising and the aid of intensive sales effort, a large share of the consumer's dollar.

To list some of these new competitive national organizations:

The National Lumber Manufacturers' Association has raised $1,000,000 a year for five years or a total of $5,000,000.

The photographers have raised a $2,000,000 campaign to be expended over four years.

The laundry industry expects to spend $4,000,000 in four years. They are now doing an estimated business of $500,000,000 a year and are working for a billion dollar business a year by the annual investment of $1,000,000 in national advertising.

The electrical industry is expected to spend $7,000,000 a year for the next ten years.

The cement industry organized about 24 years ago and is estimated to have spent since that time over $30,000,000 to build prestige for concrete as against other materials. This industry has a staff of over 500, including a field force of nearly 300 engineers and specialists, maintains a library, a laboratory and branches in 30 cities.

The florists "Say It With Flowers."

The jewelers advertise jewels as necessary to a woman's adornment and poise as fine clothes.

The paint industry with the slogan, "Save the Surface and You Save All." The electric light association: The copper and brass; the automotive; oil burners; the washing machine; leather; sheet steel.

The list is too long to enumerate here, but, including the dozens of food associations such as the raisin, rice, orange, walnut, pineapple, the total reaches beyond 100.

The cement industry competes with the asphalt and with the various building material associations. Lumber competes against stone, brick, stucco, and wood substitute. Concrete against structural steel. Wood against composition shingles. The ice industry against artificial refrigeration. Oak against maple floors.

In competition with us all there is a great automobile industry with a total business of four to five billion dollars a year.

In advertising, the newspapers are against the national magazine, the magazine against the radio, and now comes the vitaphone and the illuminating night sky writing, a new development in the electrical industry.

The fight for the American market is always on and increasingly intensive.

Direct-to-You Competition

In 1924 the Trade Extension Bureau made a survey in 15 cities in the east and northwest sections of this country where they found that there were established 148 houses, selling directly to the consumers with an estimated volume of business in plumbing and heating supplies exceeding $10,000,000 a year. It has been estimated that in Chicago, the volume of plumbing and heating business sold direct to the consumer by institutions

A Record of Honest Dealing

Back of the Climax Cellar Drainer and its manufacture is a long record of honest dealing with the plumbing trade.

Every plumber who has ever handled a Climax knows that it had to make good or C. M. Kemp Mfg. Co. would make it good.

An exclusive design, backed by sound manufacture and inspection at the factory, however, has made the number of Climax replacements few and far between.

Climax Cellar Drainer

Pacific Coast Agents
WM. P. HORN CO.
Rialto Building
San Francisco, Calif.
509 Wilcox Building
Los Angeles, Calif.
L. C. Smith Building
Seattle, Wash.

THE C. M. KEMP MFG. CO.
MANUFACTURERS OF
PLUMBERS' SPECIALTIES
409-415 E. OLIVER ST.
BALTIMORE, MD. U.S.A.

Watrous

Patent Plumbing Fixtures and Duojet Water Closets

A LINE representing the most advanced ideas in sanitation. Economy of operation and ease of installation. Duojet Closets—Flush Valves—Self-Closing Basin Cocks—Combination Lavatory Fixtures—Pop-Up Wastes—Liquid Soap Fixtures, etc.

Manufactured and Sold Exclusively by

THE IMPERIAL BRASS MFG. COMPANY
1231 West Harrison St. CHICAGO

The Hotstream
HEATS IN A HURRY
TRADE MARK REG
WATER-HEATER

KEROSENE HEATERS—WICK BURNER TYPE

Quadruple coils of copper and the patented Kerogas Burner (Hotstream is the only Water Heater licensed to use it) insure the greatest efficiency.

Lights instantly at the touch of a match—is noiseless, sootless and extremely economical.

Made in 3 sizes—write for complete information.

THE HOTSTREAM HEATER COMPANY
9502 Richmond Rd. *"Makers of Heaters that Heat"* Cleveland, Ohio

KEWANEE

STEEL Riveted

BOILERS

for Lower Heating Costs

KEWANEE BOILER COMPANY
Kewanee Illinois

AMERICAN TOOLS

For Service!

Write for Catalog

AMERICAN PIPE TOOL COMPANY
Harrison St. and Kolmar Ave., Chicago, Illinois

having no affiliations with the plumbing industry exceeds at the present time $10,000,000 a year.

The survey of 1924 was not complete in the cities visited, for it was very difficult for the investigator to get definite information as most of the managers were loath to talk.

Neither did the survey cover many of the other large cities in the country, so that the actual sales must be considerably in excess of the figures just referred to.

I speak for the producers who confine their sales to the regular channels of the plumbing and heating trade when I say that we are constantly refusing business from the direct to consumer houses.

The spreading of this condition throughout the United States, those of us interested in manufacturer-to-jobber-to-retailer-to-consumer method of distribution are anxious to avoid.

Why are these direct-to-consumer houses growing? The only answer is that the public wants to buy plumbing fixtures as it buys other commodities and those houses having showrooms sell plumbing and heating fixtures as merchandise and do not make installation a necessary condition of the sale.

Since the adoption of the Baltimore resolution, the plumbers' practice has been "No Installation, No Sale." This practice has no doubt diverted the sale of vast quantities of plumbing material from the retail plumber, as a distributor, to the so-called direct-to-you houses and the mail order houses in a position to furnish plumbing fixtures. The motto of "No Installation Without a Sale" or *better still "A Sale Without Installation" would be far* more beneficial to the retail plumbing industry, for they would have the sale and would get the installation in 95 per cent of the cases.

They would not in any case have to install the goods of inferior quality sold by a direct-to-you house.

The installation side of the retail plumbing business *is far more highly developed than the merchandising* end, and if the latter is not made more effective, we feel that the sale of millions of dollars' worth of plumbing fixtures which they should market will be diverted from the retail plumbing distributors.

New Program for Trade Expansion

Recognizing the exceedingly difficult situation of our industries today, a group of manufacturers met in Chicago some months ago and formulated a program of considerably enlarged activities for the Trade Extension Bureau of the plumbing and heating industries. This program was submitted to the board of directors of the bureau and adopted.

It provided for an annual budget of $500,000, of which approximately $300,000 has been pledged to date, $146,000, almost one-half of the present pledges and a little less than one-third of the total sought, being pledged by the four largest manufacturers in the plumbing and heating fields.

Although the complete budget has not been pledged, *the committee has decided to proceed and for the time* being the headquarters will remain at Evansville, Ind., until additional funds are available and a change warranted, when it will be moved to a larger city.

Survey of Market Conditions

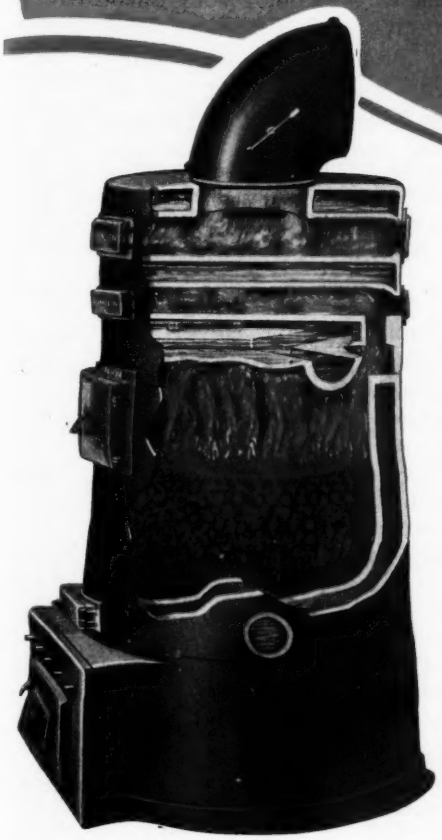
One of the first undertakings of the new program is the taking of a comprehensive survey of the country showing the actual need of plumbing and heating, the survey to be made gradually by territories in a manner so that the expense is not prohibitive.

Other national industries like the soap and glycerine manufacturers, operating through the cleanliness institute, the iron pipe manufacturers, concrete association,

UNION BOILERS

Profitable to Handle

-because they really are superior



THERE are boilers and boilers—but only one Union SUPER-SURFACE Boiler. They bring your customers real satisfaction because they have superior points of merit—and hence bring you real and steady profits!

Super-Surface Means Real Heating Efficiency

The Tri-Way Crown sheet, a big UNION feature, means greater heating efficiency. For any kind of fuel, easy to install, built in sectional units! Write for our proposition!

UNION ART RADIATORS

Three, five and seven-tube sizes, window and regular.

Union ART Radiators represent the most advanced development in radiator construction. Beautiful, strong, durable and efficient. A complete line for every requirement.

Union heating products are the finest of their kind—not built to meet a demand on price alone but made to the most exacting standards of quality. Whether you sell Union Boilers or Union Art Radiators you can build lasting good will and steady sales!

UNION Radiator Company

Office and Works: JOHNSTOWN, PA.

Branch Warehouses:

New York Philadelphia Chicago Baltimore Harrison, N. J.

Largest Manufacturers of Toilet Seats in the World

No. 120

Never-Split
Varnished Wood
Seats

For Plumbers Who Know It Pays to Give Full Value

THE surest way to build your business is to give your customers more for their money than they ordinarily get. That's exactly what you do when you sell Never-Split Wood Seats.

Nor do you sacrifice profit. In spite of Never-Split's extra quality, Never-Split prices are no higher. Your profit margin is, if anything, greater than for ordinary seats.

It costs us more to make Never-Split Seats better - than - ordinary—certainly. Costs more to bolt the joints so they can never come apart; to use only the finest grades of selected lumber; to season the wood exactly right in our own kiln; to fit it so the grain runs round the opening; to hand brush each seat with special varnish; to use new brass in the hinges and fit them so they never can loosen.

But because all this *is* done, *more Never-Split Wood Seats are sold every year than any other brand.* Great volume makes possible production economies and holds down our price to you.

Evernu—Hard Rubber

The perfect seat where hard usage is expected and long term economy is important. Special hard rubber molded by the patented Evernu process into a seamless, jointless, everlasting unit. Practically indestructible. Easily cleaned with dilute alcohol. Jet black or mahogany. Models for every type of bowl. Unconditionally guaranteed.

Perma-White and Coloro

Extra heavy pyralin, reinforced at points of wear, eliminates cracking, splitting or peeling. Washing with hot or cold water and soap won't change its color. PERMA WHITE finished in glistening pure white. COLORO finished in pastel blues, greens, yellows and brighter shades to match any decorative scheme.

Send for samples, cata'ogs and complete information about our trade-building service for the Never-Split Complete Line.

Never Split Seat Company
Dept. 27 :: Evansville, Ind., U. S. A.

NEVER-SPLIT SEATS

"Perma-White" Sheet Pyralin	"Coloro" Tinted Sheet Pyralin	"Evernu" Hard Rubber	White "Duco" Sprayed Pyralin	Varnished Wood Patented Construction

electrical association, whose interests are kindred to ours, may participate in this expense.

National Advertising

Our budget includes a substantial sum for national advertising, the details of which are not yet completed. It will be directed to the benefit of both industries and to arouse the desire of the public for more and better plumbing and heating fixtures.

General Federation of Women's Clubs

We have in our campaign the great beneficial support of the united effort of the General Federation of Women's Clubs.

Although not more interested in the plumbing and heating than in the radio and piano industries, whose products they also advocate, they are tremendously interested in relieving the women of the country from unnecessary labor and discomfort and their efforts in this connection happen to coincide with ours. The value of the support of nearly 3,000,000 women is impossible to estimate.

Advertising by our association or companies is paid for as advertising, but the activities of the General Federation of Women's Clubs favorably affecting millions of homes is recognized as news by the publishers of America, and free publicity is given their doings which is not available to business organizations.

I do not wish to appear to put this connection with the Women's Club on a commercial basis, but the publicity their efforts receive is of great value to us. It is, however, relatively unimportant compared to the value of the energetic effort, intelligently directed, of the 3,000,000 members of the General Federation, who have adopted as their motto "running water in every home."

Last year, to assist in carrying on this work, the General Federation received their financial assistance elsewhere, but the Trade Extension Bureau at the last annual meeting voted $20,000 toward this year's work, which sum is now being paid to them in quarterly installments.

Test City Campaign

It is the thought that our enlarged association when fully organized and possibly with the help of other associations having kindred ends will carry on a test city or state campaign for better homes.

From information derived through the survey previously made and with the active co-operation of the civic authorities, various civic clubs and associations, public utility companies, women's clubs, manufacturers, jobbers, and retailers of plumbing and heating supplies, we will be able to more intelligently plan for the larger national program.

Field Service

The field men now on the staff have done excellent work in carrying the message of trade extension to the plumbing and heating fraternity and have conveyed the need for good plumbing and heating to the general public through addresses given before the various civic organizations.

We hope to extend this field organization so that more constructive and better service can be rendered in the cause for which we seek general support.

Other Activities

The accounting service department, the sales help service, the showroom service, and the apprenticeship system, all will be continued as may prove desirable and necessary with an eye to the economy of operations and the effectiveness of work accomplished.

Extravagance in expenditure of time or money should not be tolerated in any phase of the development.

Support the Stack!

THE "MEYER"
INSERTABLE JOINT

Patented
April 20, 1926

The powerful set screws grip the pipe and "takes up the slack in the stack."

Costs No More

The ONLY insertable joint that supports the stack and holds the line at any height in the telescope hub.

Made Exclusively by
SOMERVILLE IRON WORKS

Warehouses and Sales Offices at
Somerville, N. J. 3637 S. Ashland Ave. 9502 Quincy Ave.
Chattanooga, Tenn. Chicago, Ill. Cleveland, O.
300 Madison Ave., New York, N. Y.

"Off-season" Profits!

Are you getting your full share?

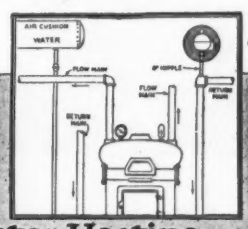
The summer months—an off-season for heating—are by no means an off-season for heating business. Many plumbing and heating contractors are ripping out old systems right and left, and installing—at a real profit—Red Top Pressure Systems of hot water heating.

Are you getting your share of this business? A Red Top Model No. 2 and an air tight expansion tank are all the special equipment necessary. The system is easily installed. It is easily sold, too, since the home owner is bound to be pleased with its efficiency and economy.

A Red Top Model No. 2 relieves unfailingly at 30 lbs. May we give you further data on the valve and the system?

APPROVED by Underwriters Laboratories, Inc.

NEPTUNE METER CO.
50 E. 42nd St. New York, N. Y.
Branch Offices in Principal Cities



Red Top Pressure System of Hot Water Heating

Retail Distribution

With the intensive competition for the consumer's dollar by the great nationally organized industries of increasing number and financial strength, it appears necessary for the plumbing and heating industries to co-operate far more actively and intelligently to extend our markets than we have at any time heretofore.

With the talent we have in all divisions of our industries, as good as that in any other industry, we can with proper teamwork attain our objective.

Under the present practice of distributing goods through the regular channels, the plumber and heating contractor have the direct contact with the ultimate consumer and their influence is of the most importance in the negotiating of sales.

E. St. Elmo Lewis, one of the country's foremost authorities on merchandising and advertising, has said: "The most elaborate campaign possible to conceive, aimed at securing consumer acceptance, must break down a large part of its value and profit possibilities to the advertiser if the dealer—the ultimate distributor—is not brought into step with the campaign by educational methods as intensive as those of the campaign itself."

Everything that is possible should be done to assist the plumber to become more of a merchandiser. He should be assisted to take advantage of the proposed national campaign of the bureau and the advertising by the manufacturer for more bathrooms, better plumbing and central heating. Because of the long replacement life of plumbing and heating fixtures, the public's attention should be constantly directed to the importance of quality workmanship and substantial fixtures.

A former officer of the National Association tells me that a plumber friend of his who does a satisfactory, profitable business inspects the job after the journeymen have completed their work and this offers him the opportunity to survey the needs for further plumbing and heating fixtures and as a consequence his recommendations frequently result in additional profitable business.

The undeveloped market in our cities offers the opportunity of replacement of old with modern fixtures, of leg with double shell built-in bath, of old pattern lavatories with a new model, of flat rim sinks with apron combinations, of stoves with modern central heating.

It is a strange anomaly, but the average individual responds far more to a pride appeal than he does to a necessity or utility appeal. That has been rather strongly emphasized in the automobile business recently, the American public not being content with buying a car because it was the cheapest but willing to pay a higher price for a more attractive unit offering more of a pride appeal than the one lower priced.

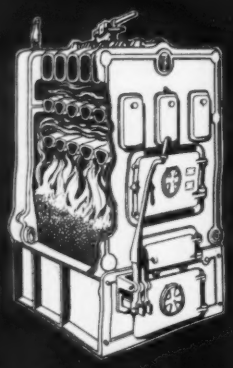
Let us in this industry actively solicit the consumer to install plumbing and heating fixtures instead of buying another automobile. There are about 24,000,000 automobiles in the country today, or one car to every family. This result was achieved during the same period of time that about 10,000,000 bathtubs were sold, or one to every two and one-half families.

The automobile people talk of there being eventually 40 million cars in the nation or two to every family and from the present rate of annual sales the prophecy is not impossible of achievement.

Let us acquire vision as to the trade possibilities of our business. Why should not this industry think of 40 million bathtubs installed in this country or two to every family.

Good workmanship in installation is essential, but is it

Burnham Boilers



It Fairly Pounces on the Heat

LIKE a cat, mauling a mouse, this High Pressure Burnham* bats the flaming gases from side to side.

As they scoot again and again past its many curved inside surfaces, it claws from them every shred of usable heat.

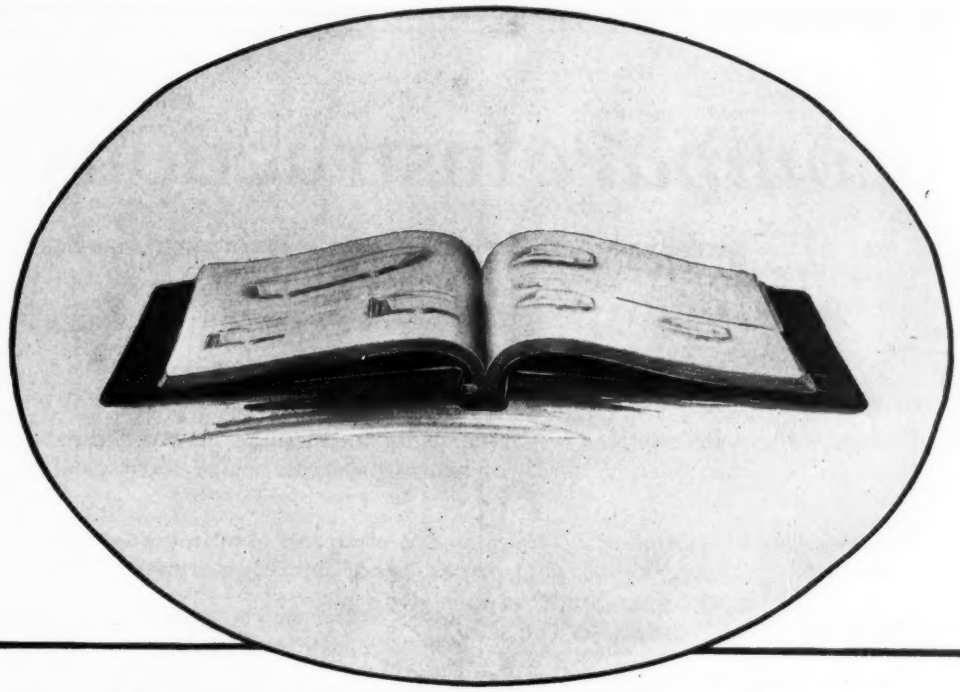
Which is just another way of saying it's the long fire travel that makes the short coal bill.

*See Burnham High Pressure Boiler for hot water supply, page 38, Catalog 67. Glad to send you a copy if yours is mislaid.

New York Office:
30 East 42nd Street

Burnham Boiler Corporation
Irvington, New York

Representatives In All Principal Cities of the U. S. and Canada



Twelve Months of Faster, More Accurate Estimates—for Ten Dollars

The Clow Bulletin is serving an ever increasing number of Plumbing Contractors— over 5,000 last year saved time and money with it. You can save its small purchase price several times in the first month.

The Clow Bulletin contains 450 pages, supplemented by loose leaf special sheets of quotation and data sent out when necessary. *It is indexed* and arranged for quick easy reading. And the prices and information are fixed and dependable—James B Clow and Sons stand back of them.

For thirteen years, a constantly increasing number of plumbing contractors have been saving money with this plumbing estimator.

The Clow Bulletin describes, illustrates and prices, all modern appliances commonly used by the plumbing trade. For inventory taking, for buying and for checking invoices it saves you money.

Tear out the subscription blank, fill it out and mail it today. You can never use $10.00 to better advantage.

Clow Bulletin SUBSCRIPTION

REG. U.S. PAT. OFF. CLOW CHICAGO

Mail to
JAMES B. CLOW & SONS
201-299 N. Talman Avenue, Chicago, Ill.

We hereby subscribe for the Clow Bulletin at the rate of 83 cents per month ($10.00 per year)

Upon receipt of the Binder and Bulletin pages we agree to pay, at the monthly rate, the proper amount to carry our subscription until September 1st, and we further agree to pay thereafter the subscription price of this Service *($10.00) annually in advance.*

And we further agree that the title of ownership to the Binder and Bulletin pages shall rest with James B. Clow and Sons and that upon our failure to renew our subscription at the end of any fiscal year (September 1st), or upon repayment to us by said James B. Clow and Sons at any time of the unearned portion of our subscription, we will surrender to said James B. Clow and Sons, or its authorized agent, the aforesaid Binder and Bulletin pages and this subscription shall be immediately terminated.

Nothing in this agreement shall obligate James B. Clow and Sons to publish or maintain the Clow Bulletin, the subject of this agreement, except that if the publication of the Clow Bulletin is discontinued after the receipt of our subscription we shall be repaid the amount of the unearned portion of said subscription.

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Date ---------- 19----

Street ----------

City ---------- State ----------

Compare Instructions

These are the instructions, to the purchaser, for the operation of Gas-Era Gas-Fired Boilers:

1. Light pilots.
2. Turn on main gas cock.
3. Leave regulation to automatic controls.

Compare these instructions with the usual formidable, involved directions for the care and operation of heating systems which must gasify crude fuels.

Gas-Era Gas-Fired Boiler instructions are brief and simple because the operation of these boilers is *tamper-proof* and *automatic*. The dealer's job is correspondingly simple—with a minimum of servicing after the sale.

The growing popularity of Gas-Era Gas-Fired Boilers is well-founded.

Tamper-proof

Auto-matic

Designed for residential and industrial use, with capacities in Steam from 400 to 12,000 square feet, and in Water from 650 to 19,500 square feet of radiation.

Gas-Era Gas-Fired Boilers

Manufacturers and Western Distributors
L. J. MUELLER FURNACE CO.
167 - REED STREET ~ MILWAUKEE, WISCONSIN

Eastern Distributors
RICHARDSON & BOYNTON CO.
260 - FIFTH AVENUE ~ NEW YORK CITY

not true that in the retail distributing end of this business we have magnified the relative importance of installation as against the value of merchandising; and that, therefore, the consumer's dollar has been largely taken by industries having a broader conception of the importance of active retail merchandising methods.

Open Prices

As an active sales distributor, the retailer must establish an open price at which he is willing to sell. In the past, there has been so much mystery and secrecy about the prices to the consumer for plumbing fixtures that the public has received the impression that profits are outrageous, while, actually, the average plumber barely makes a comfortable living.

Why should the retail plumber and heating contractor not deal in other merchandise of a kindred nature, to help him carry his overhead and give him a stable all year round business? It is now being done by some, and successfully.

Is it not logical to bring into the retail distribution of our industries the same principles of marketing and good business methods as they can be adapted which have proved highly successful in many other fields?

Showrooms

From figures compiled by the Trade Extension Bureau, less than 25 per cent of the master plumbers and heating contractors have show windows and maintain sales rooms. Unfortunately, many of these are not kept in the most attractive condition and, therefore, are not active sales influences, but, rather, operate to the contrary.

No retail plumbing or heating establishment can carry a full line of fixtures on exhibition. That is probably the manufacturers' obligation, but those contemplating adopting the role of the merchant master plumber should have show windows and salesrooms, cleanly maintained, so that they are attractive and inviting.

Most of the fixtures today are staple, and should a customer want a special piece he should be induced to visit the manufacturers' or jobbers' exhibits.

The plumbing and heating business should be one of dignity and quality and it should return a profit to those engaged therein. It should occupy the high position in the public consciousness to which it is entitled by its importance to the national well-being.

Financial Support

The proposed comprehensive program of trade expansion will only succeed if the retailer, the most important link in the chain of distribution—manufacturer-to-jobber-to-retailer-to-consumer—takes an active part along the lines here generally described. His failure to actively participate in the distribution as an energetic sales factor will result in an increasingly larger percentage and volume of plumbing and heating fixtures reaching the consumer through the direct-to-you houses. No other solution appears possible.

Many individual plumbers and heating contractors are recognizing this possibility and developing their business more and more on the merchandising side.

Some local associations, desirous of keeping the plumbing and heating business in the regular channels and at the same time prosper, are organizing to take aggressive action to sell merchandise.

The new program of trade expansion was presented to a number of state conventions held earlier in the year, where it was generally endorsed, and by some conventions separate financial assistance voted.

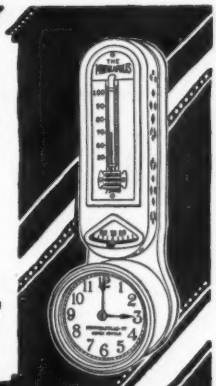
The Trade Extension Bureau has had the moral and financial support of the National Association of Master Plumbers in the past. We appeal to you for a recognition of the larger program, for your increased moral and financial support, for the support of the state and local

THERE are more Minneapolis Heat Regulators in use than all other kinds of heat controlling devices combined. Uninterrupted leadership for 41 years.

Write for catalog and sales plan

Minneapolis Heat Regulator Co.
Est. 1885
2801 Fourth Ave. So. Minneapolis, Minn.

The "MINNEAPOLIS" Heat Regulator
for COAL—GAS—OIL



KENNEDY
VALVES-PIPE FITTINGS-FIRE HYDRANTS

Radiator Valves

Straightway, angle and corner types, with or without union, various finishes.

Send for catalog

THE KENNEDY VALVE MFG. CO.
Elmira, N. Y.
Branches in principal cities

STRINGER ROUGHING-IN SYSTEMS

Save the Plumber TIME and MONEY—

They come ready to install with no waste of material. Try them on your next job and be convinced of their merits.

Manufacturers of complete roughing-in systems for either CAST IRON or SCREWED PIPE installations. We have fittings for any operation—from the smallest bungalow to the tallest building.

Write for catalog of Modern and Economical Plumbing Roughing-In systems.

STRINGER BROS. CO., Inc.
1100 West 38th St. - Chicago, Illinois
Factories: Gadsden, Alabama
Warehouses: Chicago, Illinois, Gadsden, Alabama

PLUMBERS' BRASS GOODS
AND
PLUMBERS' SPECIALTIES

THE PECK BROS. & CO.
Established 1856
NEW HAVEN, CONN. NEW YORK CITY.

A Dependable

The Richmond Foundry & Mfg.

Mention DOMESTIC ENGINEERING when writing advertisers.

Source of Supply

We make Dependable Promises as to shipments —

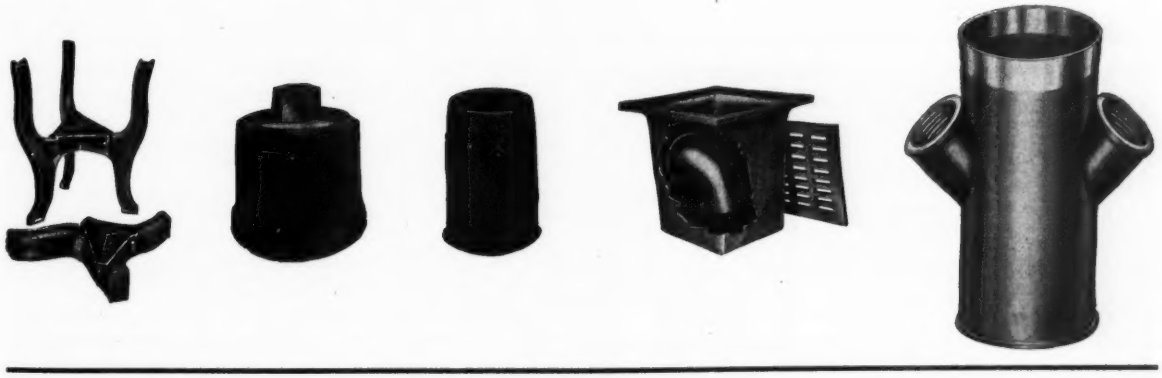
because we have:

ADEQUATE FOUNDRY
ADEQUATE MACHINE SHOPS
ADEQUATE STORAGE and SHIPPING

For the WHOLESALER this means
Less stock—Less correspondence—More turnover

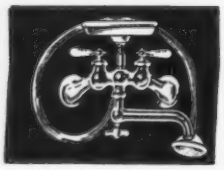
For the PLUMBER
Less waiting—Less complaints—More trade

When you make your mid-year stock check-up
LET US FILL THE GAPS



Co., Inc. — Richmond, Virginia

Classic Sink Fixture



Father of all the other combination sink fixtures and far and away the biggest seller of the lot. You'll make no mistake to keep on selling Classics, no matter how many substitutes come hammering at your door.

CHICAGO FAUCETS

The Chicago Faucet Co.
2700-22 N. Crawford Ave.
Chicago, Ill.

Telephone: Lawndale 1850 - 1851

Ingot Brass

Smelters and Refiners

High Quality Metals

Metals made up to specifications.

R. LAVIN & SONS
2511-2525 W. 21st St.
John Hartman, Sales Mgr. Chicago, Ill.

DEPENDABLE

SOIL PIPE and FITTINGS

SAACO

Sanitary Co. *of* America
LINFIELD, PA.

Adjustable

In less than 30 seconds, any mechanic can adjust the Donnelly *Pressure Relief Valve* to any desired pressure.

Note the external spring which does away with the dangers of corrosion. Your jobber will gladly supply you.

DONNELLY MFG. CO.
29 Mills St. | Malden, Mass.

associations and of the individual retail plumber and heating contractor.

Your financial support is needed, but it is valued particularly because it is an index of the interest taken by those subscribing and is an assurance of a serious participation in this large work.

It is our hope that before the convention adjourns this representative body of retail plumbers and heating contractors will adopt a resolution endorsing the larger program with the promise of your substantial, practical support.

N. A. M. P. Scholarship Work Progressing

By Frank J. Fee*

THE five scholarship students entering Carnegie Institute of Technology in September, 1926, have completed their first year of study with very satisfactory results. As a result of the efforts of this association along scholarship lines, the committee finds that 41 students entered Carnegie Institute of Technology the first year to take the plumbing and heating engineering course, including not only the five boys on scholarships, but 36 additional students as well. The popularity of the plumbing and heating engineering course shows the necessity of providing university training for the young men of our country so that they may learn the workings of plumbing and heating engineering in both a practical and scientific way.

Frank J. Fee

It is the hope of the committee in this connection that at least four universities will, within the near future, be equipped to teach plumbing and heating engineering in a manner similar to the way in which it is now taught at Carnegie Institute.

The committee also finds, through inquiries received, that our members are not fully informed as to the work done in the past by our association concerning provisions made for educating the sons of master plumbers through scholarships, nor are the qualifications on the part of the applicants thoroughly understood. In view of this the committee believes it would be well if the entire work of the association, as covered in the printed proceedings, and as relating to scholarship matters, be printed in a separate pamphlet, independent from the proceedings so that these pamphlets could be delivered to each member at the same time as the proceedings of this present convention. This pamphlet could also be sent out to those members making inquiries subsequently.

All inquiries concerning scholarship matters should be addressed to the executive office of the association, which is fully informed as to every detail.

Question has been raised as to whether a scholarship could be awarded and a student entered in school on the initial payment toward a fund of one year's tuition, the balance being promised for the three years thereafter.

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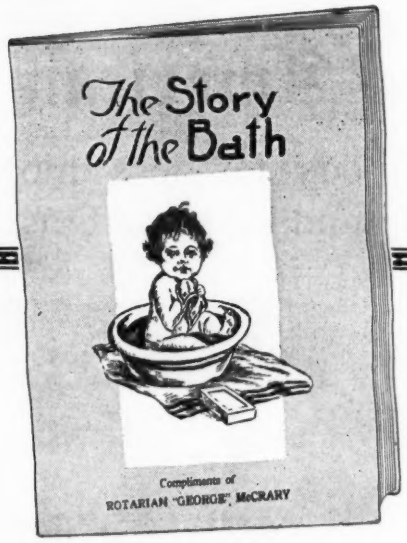
* Paper read before the forty-fifth annual convention of the National Association of Master Plumbers, Minneapolis, Minn., by Frank J. Fee of New York City, chairman of the scholarship committee of the association.



Here's the way "Rotarian George McCrary" gave

THE STORY OF THE BATH

*to Birmingham Rotarians**

WITH his compliments, "Rotarian George McCrary", of Birmingham, Ala., gave to his fellow Rotarians a copy of this little booklet which has done so much to educate the public as to the vital importance of the plumbing industry. If you want to put your industry on the map with your fellow Rotarians, Kiwanis, Lions, Boosters, etc., arrange to distribute "The Story of the Bath" at one of your luncheons. It will be inexpensive—and will yield splendid publicity.

**Paul Broome, Bradley Beach, N. J., and Ben Collier, Danville, Ill. have given their fellow Rotarians a treat.*

"Kiwanis" A. B. Hunt, of Williamsport, Pa., has followed suit. So has "Kiwanis" Ernest Demi of Philadelphia, Pa.

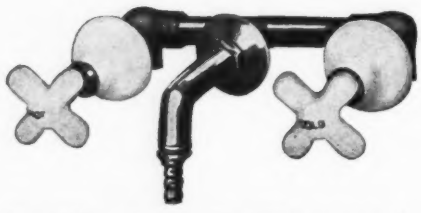
Ask for a free copy of "The Story of the Bath" and you'll see why Mr. McCrary gave it out

DOMESTIC ENGINEERING

1900 PRAIRIE AVE. :: :: :: CHICAGO, ILL.

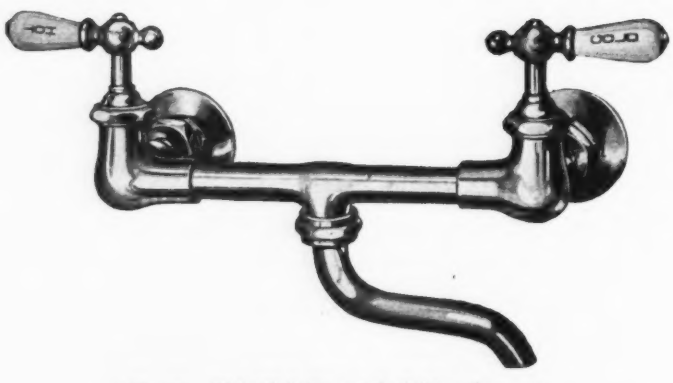
Some New American Numbers

Good Goods for less money—to meet demand for something cheaper.



No. 1022 — An Over Rim Filler to meet the demand for "something cheaper". Mechanically correct and neat in appearance.

American



No. 42 — This Sink Faucet is lighter than our other numbers—but is very substantial and serviceable where a plain fixture is desirable.

Write Us for Prices

American Sanitary Mfg. Company

Abingdon, Illinois

In answer to this, it seems to the committee that it would be most unwise to award a scholarship to a boy presumably for four years, and then, through failure to receive from the sponsor the balance of the funds as promised, find it necessary to withdraw the boy before completion of his four-year course.

The committee regrets to report that it was unable, through lack of funds, to go forward with an examination for additional scholarship students for the year starting September, 1927. A large number of inquiries was received from prospective applicants and it is a source of disappointment that an examination for the year starting September, 1927, could not be held. Competitive examinations will be held, however, for admission of additional students in September, 1928.

The Committee has learned that, owing to an increase in tuition and expenses, $500 per year is not sufficient for a scholarship in the future. In order that the scholarship boy may not have to meet this increase out of his own pocket, the committee feels that an additional sum of $100 should be added to the $500 as provided heretofore, making a total of $600 for a school year. This increase in scholarship amount will not apply to the five boys who entered on scholarships in September, 1926, as Carnegie Institute of Technology will carry through its contract for the education of these boys until their graduation, at the old rate of $500 per student, per year.

Although the plumbing and heating engineering course has been established and a curriculum provided on a permanent basis, problems still remain which will require working out—the principal one being the providing of text books that will be specially applicable to the teaching of plumbing and heating engineering. The committee is glad to report that work in this direction is under way.

At the St. Louis meeting the committee agreed that it would be highly desirable if the national association had a fund of sufficient amount to support eight scholarships, thus enabling the association to award two scholarships each year for the full course of four years. Inasmuch as sufficient funds were not available to carry out this program, it was decided to ask the manufacturers and wholesale dealers of plumbing goods for their aid in increasing the fund to $100,000, which was deemed sufficient to cover the expenses necessary. In asking the manufacturers and wholesale dealers to contribute, it was felt by the committee that they would be only too glad to join in creating this fund, inasmuch as they would share equally in the benefits to be derived therefrom. A letter was accordingly prepared and sent to the manufacturers and wholesale dealers, but on account of the fact that this letter was sent out at a late date, the only report the committee is able to make at this time is progress. The committee trusts that a most generous response will be given and that a substantial amount will be received from the manufacturers and wholesalers. Amounts as received will be announced through the trade press and a report will be rendered in detail at the next convention.

The committee sincerely appreciates all contributions made during the past year and heartily thanks the donors. Thanks are also given to the officers and members of the association, to the Ladies' Auxiliary of the National Association through its able leader, Mrs. Hornbrook; to Director Connelley and his worthy colleagues of the Carnegie Institute of Technology; and to the trade press for all aid and assistance given.

Receipts and Disbursements

Receipts and disbursements for the past year are as follows:

LOW PRESSURE AEROFIN Vacuum to 50 lbs. gauge steam Tube-Plate Construction

Whatever you've wished for in a Fan System Heating Surface you'll find in Aerofin!

Non-Corrosive—Compact—Lightweight
Encased Units, installed quickly and cheaply

Bulletins upon request to Aerofin Corporation, 750 Frelinghuysen Ave., Newark, N. J.

25 to 350 lbs. gauge steam Continuous Seamless Tubes HIGH PRESSURE AEROFIN

No. 25 DOUBLE ACTING LEVER

This Inbraco lever is of special construction insuring easier operation and installation.

Heavy brass castings machined to precision. All exposed parts highly polished and nickeled.

INBRACO

Write for catalog.

INDIANA BRASS CO., FRANKFORT, IND.

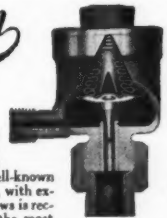
EAGLE SOLDERS

EAGLE Solders are scientifically produced to meet the special requirements of every industry. Their accuracy reduces initial costs and increases production. They are furnished in bar, wire, tape, triangular, capping or drop forms—made of virgin metals—each bar stamped with the Eagle Trademark and numbered stars. Insist upon Eagle ★ Solders.

The EAGLE-PICHER LEAD COMPANY
Chicago · Joplin · Cincinnati
Producers of lead and allied products

Eleven Plants · Branches in all principal cities

Sylphon



Air Line Valves

No. 410 (Cut open view)

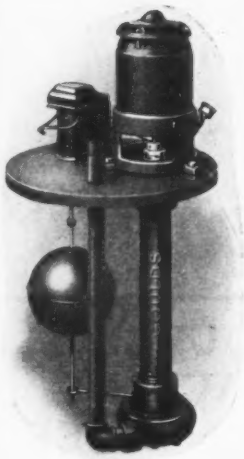
A vent valve which silently and positively expels air and condensation without allowing slightest escape of steam. Contains the well-known Sylphon Bellows as thermostat, with extra large movement. This Bellows is recognized by heating experts as the most flexible, durable expansion unit in existence. Specify these valves and insure a properly vented heating system for all time.

Send for Bulletin KAV-100.

The Fulton Sylphon Company
Originators and Patentees of the Sylphon Bellows
Knoxville, Tennessee, U.S.A.

OFFICES IN PRINCIPAL CITIES OF U. S.

for Drainage!



A COMPACT, self-contained unit for draining cellars, pipe tunnels, elevator pits, and for numerous other uses.

Automatic operation. Economical. Reliable. Quiet.

Pump Goulds Centrifugal. Cast iron casing. Wearing parts of bronze.

Motor ¼ H. P. vertical type, mounted on pit cover.

Switch Double pole type, mounted on pit cover. All working parts entirely closed.

Float Copper float and brass rod actuate the automatic switch.

Send for complete information and price.

Goulds Pumps, Incorporated
Seneca Falls, N. Y.

GOULDS SUMP PUMPS

The
Herman Nelson Unit Heater

With the Wedge Core
INDESTRUCTIBLE
TRADE MARK

realizes all the theoretical advantages of Unit Heater principles

Leak proof, rust-proof and indestructible in service . . . Operating steam pressure from atmosphere to 125 lbs. No reducing valves necessary . . . Greater range of flexibility and capacity. Freezing cannot harm it . . . There are many other reasons, each distinct and exclusive, why the Herman Nelson Unit Heater realizes your ideal of a trouble-proof, efficient unit heater . . . Before you contract for any unit heaters, let us submit our facts for intelligent study . . . If you are interested in heating

Factories · Mills · Railroad Shops · Roundhouses Warehouses · Garages · Gymnasiums · Auditoriums

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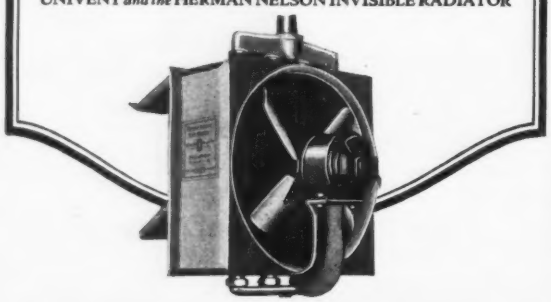
THE HERMAN NELSON CORPORATION
MOLINE *Makers of the* ILLINOIS
UNIVENT *and the* HERMAN NELSON INVISIBLE RADIATOR



Receipts

Balance on hand as reported at last Convention		$31,892.06
Florida State Association	1,500.00	
Mrs. Frank B. Lasette 1st installment for one scholarship. Fund to be known as "Frank B. Lasette Scholarship Fund"	500.00	
National Association	3,000.00	
Interest earned	889.17	
Total Receipts		$37,781.23

Disbursements

Carnegie Institute of Technology for Ross L. Bryson	$500.00	
" Louis S. Nielsen	500.00	
" William F. Henderson	500.00	
" Clayton Reichenbach	500.00	
" Chester Armstrong	500.00	
Total Disbursements		2,500.00
Balance on Hand		$35,281.23
Total Fund		$35,281.23

Invested as follows:

Guaranteed Mortgage Certificates @ 5½% (See list attached)		$30,700.00
Certificate of Deposit	$1,000.00	
New Netherland Bank	500.00	
	655.35	2,155.35
		32,855.35
Cash on Hand in Bank		$ 2,425.88

Recommendations

The committee recommends:

1. That the amount of scholarship money for each student in the future be increased from $500 to $600 for each scholastic year.

2. That the reports of the Scholarship Committee for the years 1924 to 1927 inclusive, together with all discussions and actions taken by the association and as now a matter of record in the past proceedings and as they will appear in the printed proceedings of this convention, be compiled, properly edited and separately printed in pamphlet form and distributed to each member with copies of the proceedings of this convention.

Effects of Enclosures on Radiator Performance

(Continued from Page 34)

radiators in rooms of standard size with actual exposed walls, and practical ratios of wall to glass and door surfaces. This involves controlled temperatures both inside and outside of the rooms, and the possibility of maintaining low temperatures outside of the rooms independent of weather conditions. Such provision is now being made by the Engineering Experiment Station at the University of Illinois.

Two such test rooms are now in the process of construction. These rooms will be approximately 9 ft. by 11 ft., with 9 ft. ceilings, and will be installed inside of a larger room completely insulated with 6 inches of corkboard. This larger room will contain refrigerating coils, making it possible to maintain controlled temperatures as low as zero degree Fahr. Each small room will have two exposures, one containing a window and one a door. Also, provision is being made whereby any desired temperature, down to zero degree Fahr., may be maintained above the ceilings or below the floors. By making use of these rooms it is expected that this study will be extended to radiators under service conditions in the near future.

MILLIONS of HOMES are looking for HOT WATER SERVICE just like this!

YOU aren't especially interested in the millions, of course. But the fact that there are probably a hundred of these homes within a few blocks of your store just waiting for you to come along and sell them a Kalamazoo Automatic Storage Heater ought to be good news.

Sales up to now on this new popular priced Humphrey heater, announced only a few weeks ago, indicate that any dealer's opportunity for a big, quick profit is limited by nothing except his own ability to get around and spread the news among his customers.

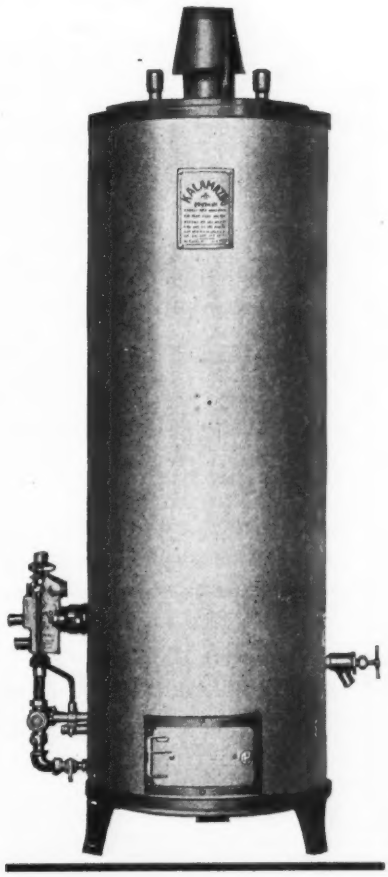
The Kalamazoo sells at a price that any home owner can afford, and it delivers hot water (*really hot*) in volume sufficient for all purposes—at a fuel cost that is way lower than average for heaters of this type. We knew that the Kalamazoo would sell, and now it *is* selling, at a rate that is breaking all records. *You* can sell it too—in quantities that will surprise you.

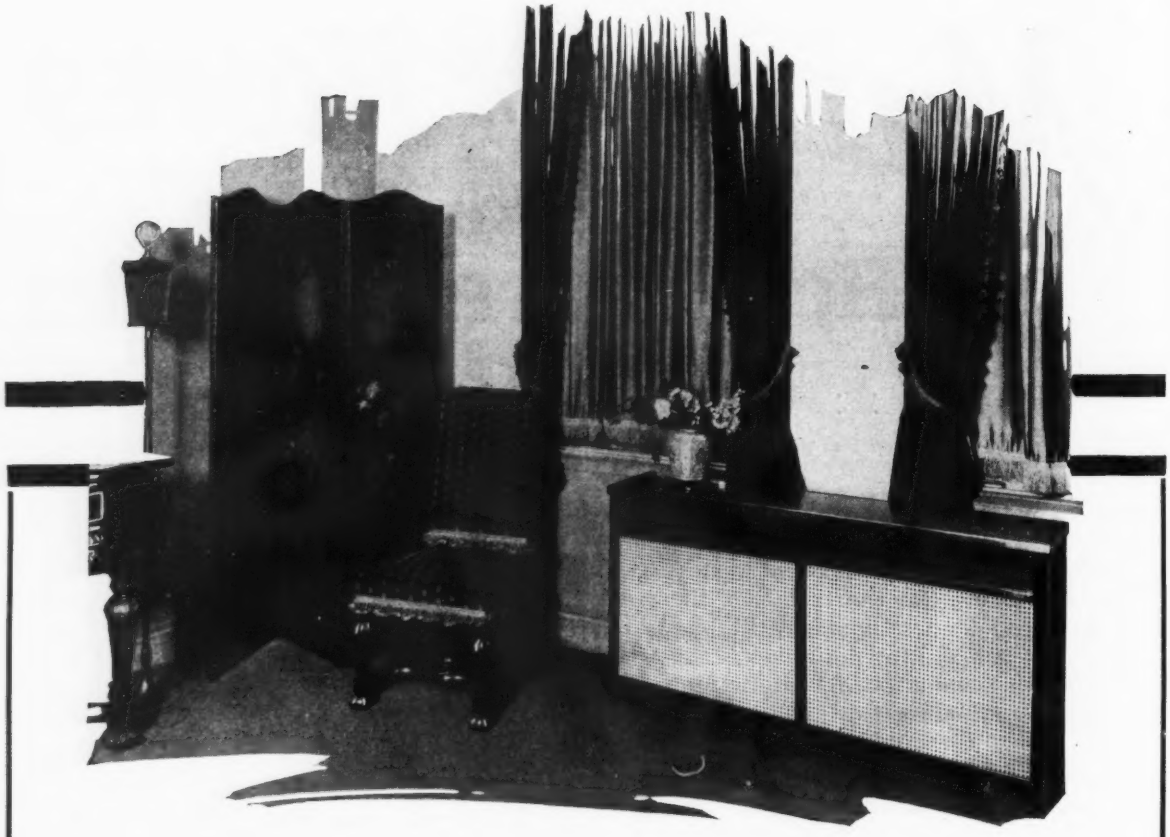
Write today for all the facts about this new heater and the selling ideas that are putting it over in such a sensational way. There's money in every sale, and you're certain to make a lot of them if you do the things we tell you.

HUMPHREY COMPANY
Kalamazoo, Mich.
(Div. Ruud Mfg. Co.)

HUMPHREY
Automatic Gas Water Heaters

Brand New
KALAMAZOO
Automatic
Storage Heater
$95 and $125





Profits in the Dull Season

Here is an opportunity to make some real money during the dull season.

THERMAINO, the practical as well as beautiful radiator enclosure, will help as much as any other single detail to rent apartments and sell homes.

The foresighted owner, well aware that many no-longer-new-apartments will stand empty this winter, is waiting for you to show him that modernizing his property with THERMAINO is an investment well worth while.

THERMAINO can be furnished in mahogany and walnut grains, in ivory, white or prime coat, ready to paint over to match interior trim.

Why not take advantage of this opportunity to make some real profit this summer. Write us now for literature and prices.

THE HART & COOLEY MFG. CO.
WEST MAIN STREET :: NEW BRITAIN, CONN.
NEW YORK PHILADELPHIA CHICAGO

THERMAINO
Eclipses Bare Radiators

Discuss Research at A. S. H. V. E. Meeting

(Continued from Page 39)

the obscure laws that govern infiltration. Tests are being made with elaborate apparatuses at the Southwestern Bell Telephone Building, St. Louis, not in a critical spirit, but with the full approval of the telephone company who want this data for their future building programs, and with the earnest approval of the architects of that city. Data from these tests will be available soon. Pictures of the testing apparatus used in St. Louis were shown on a screen and similar tests made in Pittsburgh were described.

Among the interesting findings is that the suspicion that there is a certain amount of infiltration through brick seems to have been disproved. Air does go through the brick mortar between the bricks, it was discovered, but in the tests, when any possible air leakage through the bricks was stopped by painting with suitable paint, the results were the same as when the bricks were not painted. Paint applied to the mortar between the bricks rendered it proof against infiltration.

One of the fine contributions to the information of the society was the paper presented by A. C. Armstrong of the Campbell Metal Window Co., Baltimore, Md. This paper took into consideration, principally, the infiltration of air through windows of the present day high buildings. High buildings increase exposure and there is a tendency toward larger window areas, so infiltration is becoming increasingly important. As much as 30 per cent of the heat loss in high buildings may be due to window infiltration. If the heating contractor and engineers can know with some degree of exactness what windows will do to the air temperature inside these large buildings, he can make suitable allowances.

Mr. Armstrong made a comparison of cost of windows having a small amount of infiltration and those permitting a larger amount. A number of charts was presented showing the infiltration through wood windows, windows not weather-stripped, infiltration through wood windows weather-stripped, results of infiltration tests on metal windows, etc.

It was recommended that building specifications be so written that there will be only a definite amount of infiltration. Methods are now in use for testing windows by creating a static air pressure on one side of the window and measuring the amount of leakage. Various recommendations were made, which it was believed would enable the heating contractor and engineer to have a clearer knowledge of the problems of infiltration and what to do about it.

UNIT VENTILATORS AND THEIR APPLICATION

A. J. NESBITT'S paper analyzed the fundamentals of unit ventilators and their application. Touching lightly on the early history, beginning in 1908, and development of the unit heater since that time, Mr. Nesbitt presented what he stated was the first fundamental principle of unit ventilation which is a vertical discharge at high velocity. He pointed out the necessity for correct air motion, as volume alone without correct air motion may deliver air to the room but it may not deliver air to that part of the room that is occupied. For this reason high velocities have been the principle incorporated in devices of this character. He cited tests made by exploding a smoke bomb and watching the diffusion of the smoke and mentioned positive distribution as the second fundamental principle. He emphasized the facilities for temperature control, accessibility of parts, flexibility of service, low cost of main-

HOFFMAN
Automatic
Gas Water Heaters and Storage Systems
Always a step ahead!—in patented features, exclusive improvements and in money-making opportunities for *you.* :: :: ::
THE HOFFMAN HEATER CO.
LOUISVILLE, KY.

ESTABROOK
Round Boston Grease Trap

For drainage of hotels, restaurants and clubs, the Estabrook Round Boston Grease Trap will be found exceptionally effective. Furnished with 4, 5, or 6 inch outlets for outside installation.

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"Only one moving part"
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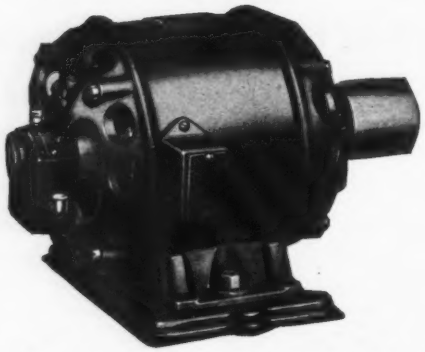
"They Keep a-Running"



¼ Horse Power Century Type RS Repulsion-start Induction Single-phase Motor

Dampness Does Not Affect Them

Thorough insulation of the windings in Century Type RS Repulsion-start Induction Single-phase Motors enables them to successfully resist dampness and moisture when forming a part of such installation as refrigerators, laundry machinery, pumps, dish-washers—and in damp, humid climates.

1 Cotton-enamel insulated wire is used in all windings.

2 Non-moisture absorbing material forms a part of all slot insulation.

3 Windings are saturated with insulating compound.

The Century Wool-yarn System of Lubrication, standard on all one horse power and smaller motors, insures at least one year's continuous 24-hour-per-day operation, without reoiling.

Century Type RS Repulsion-start Induction Single-phase Motors are made in all standard sizes from ⅛ to 40 horse power. Temperature rise not more than 40° Centigrade in the hottest spot.

There is a *decided* difference!

CENTURY ELECTRIC CO.
1806 PINE ST. :: ST. LOUIS, MO.

32 Stock Points in the United States and More Than 50 Outside Thereof

⅛ to 40 H.P. Century MOTORS ⅛ to 40 H.P.

tenance, small space requirements and physiological effect of outdoor air. He outlined the developments since 1922, discussed motors and applications of the unit system and concludes that there are several important requirements to be met in designing a unit system:

(1) To obtain the best results the unit should be placed along the outside wall and in the center of the wall.

(2) Care should be taken in locating the vent or flue outlet.

(3) Vent flue areas should be restricted, where the law permits, to 20 sq. ft. in cross section of flue area per 100 cu. ft. of air.

(4) Where thermostatic control is used, it is important that the thermostat be located as nearly as possible on a line opposite the ventilating unit.

(5) Where the conditions permit, use the blast system and in no case permit sufficient radiation to heat the room independent of the heating unit.

It was proposed at the January, 1927, meeting, to prepare, during 1927, a survey of the activities of the society. It was desired to learn in just which direction the society was heading, how its aspirations balanced with its financial condition, etc., and W. H. Driscoll was appointed chairman of a committee to make this report. He reported in brief, stating that a more complete report would be presented at the next meeting in New York. He was concerned about the acquisition of new blood in the society, but wondered whether the present dues would work a hardship on new members. The spirit of the discussion that followed was entirely foreign to any such feeling, it evidently being the consensus and experience of many that new members as well as older ones see the necessity of maintaining the present momentum in conducting research which, of course, is supported largely by dues of members.

Samuel R. Lewis and F. C. Houghten have visited a number of chapters of the society and have asked expressions of opinion of these chapters regarding dues, and in each instance they did not feel like curtailing the activities of the research bureau by a reduction. Said Thornton Lewis: "We have enough money for the present, all the money we need, and the society is in a good financial condition.

DELEGATES ENJOY ENTERTAINMENT

IT WAS stated that never before were there so many ladies in attendance at a meeting of the society, the beautiful surroundings in the hills of West Virginia, the bridge parties, trout fishing, golf tournaments, the pure mountain air and the many other social activities proved a great attraction.

The silver cup provided by the research committee was won by Alexander McClintock of Philadelphia with a net score of 70. The players were divided into class A, class B and class C. In class A the first prize was won by M. F. Blankin, net score of 77; second prize, H. P. Gant, net 80; third prize, H. M. Hart, net 80. In class B, the first prize went to P. H. Seward, net 72; second prize to I. C. Jennings, net 76; third to W. H. Carrier, net 77. Class C winners were Edmund P. Heckel, net 73; second, R. F. Connell, net 73, and J. F. Reid, net 74.

In the handicap tournament the winners were: First, J. F. Reid; second, R. T. Crane, and third, Harry Hart, J. F. McIntyre, J. E. Otis and J. R. McColl, who were tied and drew for the prize.

The banquet on the evening of the last day of the convention was a delightful affair, at which various speakers made two-minute addresses, each address being started and terminated by the sound of a gong in the hands of W. H. Driscoll, official starter and stopper.

Some Sidelights on the Convention

Ross Farnham, Buffalo, and Thornton Lewis, Philadelphia, had charge of the bridge parties.

R. C. Bolsinger, Philadelphia, had charge of the golf tournament. The prizes awarded, when on display, looked not unlike the show window of a silversmith's shop. They were three happy days for golfers as well as for engineers.

Dr. E. V. Hill, Chicago, called attention again to the impropriety of using the term "fresh air."

The friendly discussion between Dean Anderson, president of the society, and Dr. Hill, as to whether heating and ventilating lie in the field of art or science, "continues to continue."

A unanimous standing vote of the society was necessary to persuade L. A. Harding, who did not attend the convention, to accept the position of second vice president.

The society has contracted with the University of Kentucky to conduct research on low pressure boilers, its appropriation being $2,000, which is to be equaled by the University of Kentucky. It was hinted that the university would spend several times this amount.

The Industrial Unit Heater Association met recently to discuss engineering problems, especially those connected with the rating of unit heaters. The society is making strong efforts to improve the method of rating so that standard methods may be provided.

Motion pictures were taken of many persons and groups attending the convention. It was stated that the film is to be presented at a meeting of the Illinois chapter, and perhaps at other chapters next winter.

For once, the society, so concerned about the condition of the air we breathe, chose a convention place in the hills of West Virginia, where the air is pure and where even screen doors can be left open without annoyance from flies and mosquitoes.

You should see F. Paul Anderson, Jr., shoot golf.

Nine States Act on Stream Pollution

INDIANA has joined the list of states party to the agreement among signatories embodying uniform administrative methods in the handling of stream pollution problems of interstate nature in the Ohio drainage area. The adherence of Indiana to the agreement, which had its origin nearly three years ago in a tripartite convention by the health departments of Ohio, West Virginia and Pennsylvania, raises the total of subscribing states to nine, as follows:

Ohio, Pennsylvania, West Virginia, Kentucky, Maryland, New York, Illinois, Tennessee and Indiana.

From the initial conference on interstate pollution problems, held at Washington in May, 1923, on call of the surgeon general of the U. S. Public Health Service, Dr. Monger, state director of health of Ohio, has laid particular emphasis on the necessity of treating the pollution of interstate streams as an interstate problem, to be solved through the medium of an agreement as to methods for the correction and prevention of undue pollution of the interstate streams in those states, so that these streams may be maintained as suitable sources of public water supplies.

Dr. Monger, commenting on Indiana's acceptance, pointed to the virtual elimination of phenol pollution in the Ohio drainage area as the first accomplishment of the original three-state and four-state agreements and directed attention to the progress now well under way with respect to other industrial wastes, notably those of the tanning and paper-making industries in Pennsylvania, and the canneries, dairies, acid iron companies and paper companies in Ohio. Ohio canneries worked all last summer

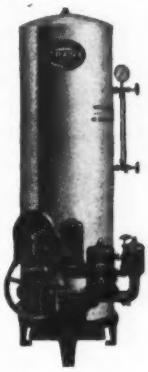
Every Crane system sold
leads to other sales

WHEN you sell a Crane automatic water system for a farm or a suburban home, your profit is just beginning.

The buyer will return for a kitchen sink, a laundry tray, a bathtub, and valves and fittings to serve them.

No trouble to keep him sold. The longer a Crane system is used, the better it pleases. Farmer and farmer's wife make themselves voluntary salesmen among all their acquaintances. A new, wide field for plumbing profits is opened.

Write for the Crane water system booklet and full information on prices, discounts and selling plan.



Crane Shallow Well System. 200 gallons an hour capacity. 42 gallon tank. 1/6 h.p. Complete, f.o.b. factory $120

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Branches in all principal cities

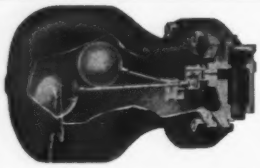
JENKINS
TESTED BRASS FITTINGS

This Trade Mark
"Triangle J"
—means that the product on which it is found is a genuine Jenkins Tested Brass Fitting.

Look for It!

JENKINS MFG. CO.
BLOOMFIELD, N. J.

BETTER J BRASS FITTINGS



That ⊙DUPLEX⊙ Feature

Without the "Duplex" feature, a water feeder must be placed so low that the danger line is reached before the supply valve opens. The "Duplex" feature assures real *water line control*. Ask us to tell you why.

Ask for Bulletin D 6.

McDONNELL & MILLER
WRIGLEY BUILDING, CHICAGO
Eastern Warehouse Stock, Bush Terminal, N. Y. (1)

Haas

Flush Valves for use in combination with all styles of bowls for all classes of service to operate under low or high pressure water supply.

Water Closets for every type or class of service.

Frost Proof Closets. Direct flush or after flushing.

Write for catalog.

Philip Haas Co., Dayton, O.

UNCONDITIONALLY GUARANTEED

ARROW
TRADE MARK

STEEL TANKS

PNEUMATIC—STORAGE—SPECIAL
Black or Galvanized

The Novelty Steam Boiler Works Company
Clare and Kloman Sts. Baltimore, Md.

E Z
RADIATOR HANGER

The *adjustable* hanger—no accurate placing of anchor bolt necessary. It's adjustable both laterally and vertically. Requires only one bolt per hanger. Provides the easiest way to install the more convenient, sanitary *legless* radiators.

Healy-Ruff Company
770 Hampden Ave., St. Paul, Minn.

Style R

with experimental methods of waste treatment at Canal Winchester. The dairy interests, after employing a consulting engineer, have conducted a survey of all existing methods of treating milk wastes, selected several as promising definite results, and during this year will establish three experimental plants for the purpose of testing them out. The acid iron interests have perfected an organization with a technical committee at work, developing several methods of waste treatment at five plants, including development of markets for by-products of the waste treated, from which the most feasible will be selected.

Beet sugar waste, a serious problem in the Lake Erie watershed, affects Ohio principally among the nine states party to the agreement. It is common to Indiana, Michigan and Ohio, and the solution of this problem is being worked out under an agreement of the Michigan and Ohio health department, similar to the nine-state agreement, but Indiana is not a signatory to this special convention.

"The adherence of Indiana to the Ohio watershed agreement sets the last stone in the arch of stream pollution control in the Ohio drainage area," said Dr. Monger. "It is of vast importance to the people of Ohio because it assures to them that what is being done by the state department of health to develop, conserve and protect public water supplies will not be nullified by the industrial wastes of the other states in this drainage area. With our own stream pollution law actively enforced, and that enforcement supplemented and reinforced by similar administrative methods in the other states, there is no doubt that industrial stream pollution can be held down to harmless or negligible proportions, except in the few localities where because of industrial congestion the surface waters have passed beyond all hope of regeneration.

"With our control over this phase of the problem assured, and with no diminution of our authority to compel installations of municipal sewage treatment works, the end of the long struggle to curb stream pollution may be regarded as fairly in sight; but should the present laws be weakened in any respect, it is only fair to say that we would be just where we were before the passage of the stream pollution law, two years ago. In that case, protection of public water supplies would again suffer from the rivalry of conflicting interests and from that phase of public lethargy which always, except in cases of acute emergency, caused by epidemic conditions, regards questions of public health as most susceptible of deferment."

DALLAS MAY SOON HAVE REFRIGERATING SYSTEM

Plans are being completed for a liquefied ammonia refrigerating system in Dallas, Tex., which will operate under a public utility plan. An ordinance granting franchise rights for the installation of a production plant and pipe lines for distribution of this form of refrigeration has been placed before the city commission and, at the time of this writing, has been given its first reading. F. O. Stevenson is grantee of the franchise, while Alex Pope is acting as chief counsel.

Should such a franchise be granted, it is planned to spend between $750,000 and $1,000,000 on a piped refrigeration plant which will serve homes, hotels, clubs, cafes, and other places using refrigeration. Under the plan, the rates would be determined by the supervisor of public utilities of the city of Dallas, and the city will receive 4 per cent of the gross returns in addition to the regular taxes.

Salt Lake City, Utah—Hugh C. Lewis, superintendent of buildings, has announced that a $235,000 addition will soon be built to the Bryant junior high school. Scott & Welch are the architects.

THIS WEEK

AMONG MANUFACTURERS, WHOLESALERS AND THEIR SALESMEN

NEW CAST BRASS CONCERN IN NEW YORK CITY

A new concern known as the City Brass Corp., 200 Hudson street, New York City, has just entered the cast brass goods field. Joseph Spatt, who was president and treasurer of the Spatt Plumbing Supply Co., Jamaica, L. I., N. Y., is the president of this new corporation. Mr. Spatt is having his line of goods made from his own patterns at western foundries and carries stock at the above address.

GRAVER CORP. ELECTS NEW PRESIDENT

W. F. Graver

W. F. Graver was elected president and treasurer of the Graver Corporation, East Chicago, Ind., at an election held June 17. At the same meeting, the following officers of the company were also elected: P. S. Graver, first vice president; J. P. Graver, second vice president; K. W. Bartlett, third vice president; H. S. Graver, secretary; A. E. Lucius, assistant secretary.

J. P. Graver, who was formerly president, turned over the reins to his brother, William F. Graver, who has been vice president and treasurer. All of the three Graver brothers were schooled in the workings of the company by their father, William Graver, Sr., who was the founder.

K. W. Bartlett has been connected with the company since 1910, and up until the recent election was general manager for several years. Mr. Lucius, of a Chicago law firm, has long been legal representative of the company.

BLAKE SPECIALTY CO. EXPANDING

The Blake Specialty Co. of Rock Island, Ill., has just completed arrangements to manufacture and sell the entire line of the Testite Co. of Columbus, Ohio (formerly the Groeniger Mfg. Co.), at its plant in Rock Island, the machinery and other equipment having been moved to the latter city. To make room for the new line at Rock Island, the Blake Specialty Co. will increase production at its plant in Waterloo, Iowa, and it will also build a new brass foundry at the rear of its plant in Rock Island.

JULY TOURNAMENT OF WESTERN TRADE GOLF ASSOCIATION TO BE GET-TOGETHER OF WHOLE CHICAGO TRADE

The Western Trade Golf Association of Chicago will hold its July tournament on Tuesday, July 12, at Olympia Fields Country Club. The day will be an occasion for a get-together of golfers in every branch of the industry, for playing with the Western Trade will be the Plumbing Contractors' Association of Chicago and the Illinois Chapter of the American Society of Heating and Ventilating Engineers. Two of Olympia Fields' four courses have been engaged to accommodate the crowd.

HELD SEMI-ANNUAL SALES CONFERENCE

The semi-annual sales conference of the Trenton Potteries Co., held at the plant in Trenton, N. J., June 27 to 30, inclusive, was marked by talks and constructive discussions. All the sales representatives of the concern were in attendance.

MOVES WAREHOUSE TO RICHMOND HILL

J. J. Callahan, manager of the Brooklyn warehouse of the John Wood Mfg. Co., Conshohocken, Pa., announces that his branch has been moved from Bush Terminal building to 8746-82 123rd street, Richmond Hill, L. I., N. Y. Larger warehousing facilities have been secured at the new address.

ARRANGE MATCH BETWEEN MICHIGAN AND WESTERN TRADE GOLF ASSOCIATIONS

The Michigan Trade Golf Association of Detroit, Mich., has accepted the challenge of the Western Trade Golf Association of Chicago for a return match at Battle Creek, Mich. Last year these two crowds got together toward the end of the golf season, and Michigan won the contest. Rivalry is still keen, however, and J. A. Galloup, of the Galloup Pipe & Supply Co., Battle Creek, has reserved September 21, at the Battle Creek Country Club, for another tournament between the two organizations. The Western Trade Golf Association is planning for a special car to transport its players to Battle Creek, and a good match is anticipated.

CRANE-O'FALLON EMPLOYES ENJOY OUTING

The employes of the Crane-O'Fallon Co., Denver, Colo., forgot price lists, plumbing and all other details of their business life, Saturday, June 25, and enjoyed a day's outing at the expense of the company. From "Jimmy," the office boy, to the "big boss," every employe was at the Denver Motor Club's home in Bear Creek canon for the tenth annual picnic of the employes' association. Henry Close, M. V. Driscoll and A. N. White, the executive committee, saw to it that nothing was lacking. Food, transportation, music, even baseball bats and balls, were provided. For winners in the athletic contests prizes were donated by M. J. O'Fallon.

MASSACHUSETTS SANITARY CLUB HOLDS ANNUAL SUMMER FROLIC

Bright sunshine and cool breezes made the fourth annual summer frolic of the Massachusetts Sanitary Club one hundred per cent perfect, but this was only because of the splendid co-operation which Joseph A. Maynard, president of the Boston Brass Co., and Captain Robert Robertson of Beverly, Mass., secured from all the members of the various committees. Approximately 300 master

plumbers, heating contractors, wholesalers and manufacturers and their representatives were present. The grounds of the United Shoe Machinery Athletic Club provided ample space for golf, baseball and all track sports.

A buffet luncheon was served between 12 and 2 o'clock, and an exceptional chicken dinner at 6 o'clock. During the course of the dinner greetings were read from the Massachusetts delegation at the Minneapolis convention. President Daniel F. Loan of Worcester, in a few well-chosen remarks, welcomed everyone at the dinner. It was during dinner that the prizes were awarded, and S. A. Martin was the recipient of a $20 gold piece as first attendance prize, Leland Gray getting the second prize, a $10 gold piece, while Messrs. Thomas S. Billedeoux and Robert LaCentra of Boston won $5 each in gold for third and fourth prizes.

The winners of the various events were as follows:

50-Yard Dash for Plumbers: First, J. Glynn; second, A. Manella.

50-Yard Dash for Wholesalers: First, W. Styles; second, John Mullaney.

Sack Race: First, David Gould; second, J. Glynn.

Potato Race: First, Arthur Bennett, Ideal Supply Co.; second, A. A. Goodwin, Detroit Range Boiler & Steel Barrel Co.

Smoke Race: First, A. A. Goodwin; second, Fred Marshall, plumbing inspector, Revere.

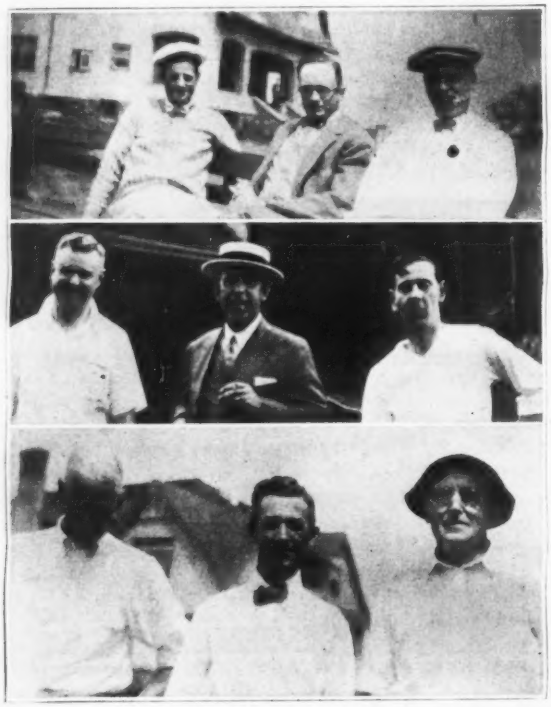
Tug of War (4 Men to a Team): Plumbers versus Wholesalers. The wholesalers won.

Quoits Contest: Winners, Sherman & Flavin, 15; runners up, Pool & Rafferty, 8.

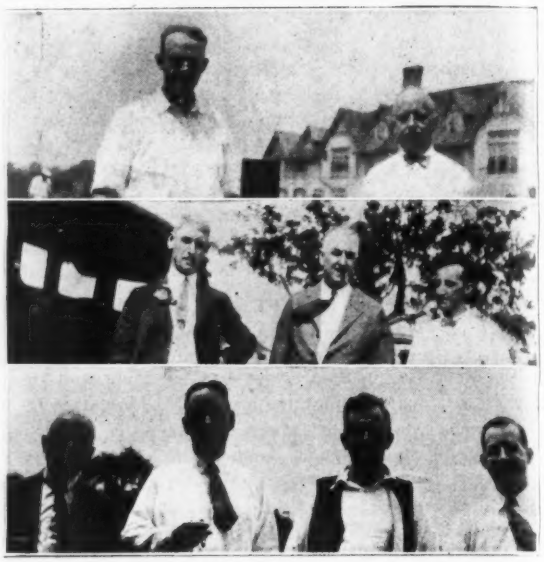
Bowling: Highest Individual Single String: Winner, Alfred Tomeo, 120.

Baseball Contest

Plumbers		Wholesalers	
Wells	C.	Goodwin	C.
Minnella	P.	Felz	P.
E. Margeson	3 B.	Martin	3 B.



Top picture: H. G. Young of A. M. Byers Co., H. W. Marshall of Monroe Co., J. F. Holmes of A. M. Byers Co.—Middle picture: John Rowe of J. B. Wise, Inc.; E. L. Baker, executive secretary of the Massachusetts State Association of Master Plumbers, Earl Wise of J. B. Wise, Inc.—Bottom picture: H. W. Thorndike, president of the F. W. Webb Mfg. Co.; Frank Hubbard of W. B. Hubbard & Sons Co., Captain Robert Robertson of Beverly



Top picture: Robert Robertson of Beverly; Joseph Maynard, president of the Boston Brass Co. and chairman of the sanitary club outing committee.—Middle picture: J. H. McGourty, secretary of the Newton association; J. T. Ryan and J. H. Unsworth, both of Newton.—Bottom picture: W. F. Gilling of the American Radiator Co., R. L. Blanding of the Thermal Appliance Co., Inc.; E. S. White, president of the Thermal Appliance Co., Inc.; A. L. Gustafson of the Thermal Appliance Co., Inc.

T. Riley	C. F.	Gould	C. F.
Bennett	1st	Maher	1st
Hickman	S. S.	Mullaney	S. S.
Flavin	L. F.	Styles	L. F.
Farnum	R. F.	Dudley	2nd
Glynn	2nd	Bennett	R. F.
Singleton	Sub.	Weiner	Sub.
Sherman	Sub.		

Scorer, J. H. McGourty, secretary of Newton association.
Umpire, Mark Greenleaf, New Bedford.

Flavin did some very snappy fielding, and Goodwin got a home run.

	1	2	3	4	5	6	7	
Plumbers	2	1	0	2	3	3		—11
Jobbers	0	2	1	2	2	3		—10

Golf

	Gross	Hdp.	Net		Gross	Hdp.	Net
Mullaney, J. J.	103	24	79	Power, L. L.	86	11	75
Farrell, Wm.	106	24	84	Farrell, T. M.	87	11	76
Skinner, R. A.	97	21	76	Riordan, D.	98	20	78
Beach, C. F.	98	24	74	Eskin, S. S.	108	24	84
Murphy, J. P.	98	18	80	Sargent, R. E.	93	16	77
Sonigan, J. J.	117	24	93	Gatheman, A. A.	108	24	84
Milliken, J. J.	123	17	106	Hyde, J. F.	93	24	69
Hirschfield, M.	132	24	108	Ellison, F.	107	24	83
Layer, T.	144	24	120	Thompson, R. D. A.	106	24	82
Mayer, J.	137	24	113	Thorndike, H. W.	101	24	77
Illig, W. R.	139	24	115	Baker, E. L.	98	24	74
Swan, T. J.	102	24	78	Calhoun, J. C.	92	24	78
Murray, W. N.	107	24	83	Robertson, R. Sr.	114	24	90
Blackall, A. J.	103	24	79	Pfluger, S. S.	98	24	74
McKeown, R.	87	16	71	Doheny, E. M.	122	24	98
Bride, J. L.	99	24	75				
Morris, E. A.	104	24	80				

The following men played but did not turn in a score card:

Su alle, D.	Cardinal, Ray.	Hubbard, F.
Minella, A.	Hawkes, A. M.	Graeff, S. B.
Elliott, G. F.	Shepard, F. E.	Petesch, G.
Gustafson, A. L.	Williams, P. R.	Wise, E. W.
Young, H. G.	Gordon, W. H.	Rowe, J. F.
White, E. S.	Williams, R. B.	Tisla, Amos.
Fox, H. F.	Cabeen, J. F.	Rockett, T. A.
Rice, W.	Watts, C.	Palier, M. R.

The following golf prizes were awarded:

Gross Prizes

Low—L. L. Power, 86: 12 balls.
2nd—T. M. Farrell, 87: 6 balls.
3rd—J. C. Calhoun, 92: 3 balls.

Net Prizes

Low—J. F. Hyde, 93-24-69: 12 balls.
2nd—Robert McKeown, Jr., 87-16-71: 6 balls.
3rd—E. L. Baker, 98-24-74: 1 ball.
C. F. Beach, 98-24-74: 1 ball.
S. S. Pfluger, 98-24-74: 1 ball.

The success of the outing may be attributed in great part to the work of the following members of the various committees: Daniel F. Loan of Worcester, Ray Cardinal of Worcester, Patrick A. Lang of Boston, Raymond C. Sullivan of Cambridge, George E. Ryan of Lynn, Francis L. Daly of Boston, John B. Feehan of Lynn, David Gould of Boston, Eugene Harnois of Lynn, John V. McAuliffe of Boston, Walter McGill of Lynn, James Mullen of Malden, Richard T. Thatcher of Fairhaven, James H. Trow of Salem, Edmund Henry of Boston, Patrick F. McGrath of Worcester, Patrick J. O'Brien of Boston, John E. Slattery of Boston, G. Wilbur Thompson of Newton, John F. Cabeen of Salem, Fred W. Allison of Boston, Arthur L. Bennett of Salem, James H. Carr of Chelsea, Alfred H. Emery of Boston, Ernest Margeson of New Bedford, Andrew McGlynn of Taunton, George A. Schaefer of Lynn, Frank W. Hubbard of Boston, George Kerr of Waban, Olin F. Chellis of Boston; J. Preston Perham of Boston, J. E. Podolsky of Boston, R. L. A. Thompson of Boston, and, last but not least, to the chairman of the outing committee, Joseph A. Maynard.

HEATING AND VENTILATING GOLF ASSOCIATION OF PHILADELHIA MEETS AT WILMINGTON COUNTRY CLUB

Joseph Luke of Chadds Ford and Wilmington, Del., played host to the Heating and Ventilating Golf Association of Philadelphia, on Wednesday, June 15, at the Wilmington Country club. With an ideal day for golf and a chance to play one of the best courses around Wilmington, the members responded in goodly numbers to Secretary Bolsinger's announcement to come out and get the pure ozone, and to relieve the mid-month fatigue. Those members who found it impossible to play, missed one of the best meets held this year.

E. J. Meloney, playing a bang-up game all day came through with the best score, a net 66, and won first prize and his first leg on the H. J. Carr Trophy cup. The morning round called for medal play 18 holes. In class A, J. Morgan Kipe shot a snappy 67 and won first prize and four golf balls. M. F. Blankin took second prize and three balls with a net 71. Third prize and two balls went to W. G. Culbert with a net 77. C. J. Williams also received two balls for fourth prize by shooting a net 80. One ball and fifth prize was captured by Walter Wild with a net 81.

Class B produced the "Tom Armour" of the day in E. J. Meloney who took four balls as first prize in addition to the cup. Charles V. Haynes with a net 74 carried off second honors and three balls. Third prize and two balls went to George Hughes with a net 89. By shooting a net 89, Harry J. Walther also took fourth prize and two balls. Lee Nusbaum got one ball and fifth prize with his net of 90.

The afternoon round called for the best ball partners. Foster and Cooper shot a gross 69 with 5 a handicap for the remarkable score of a net 64. This entitled them to first prize and four balls each. Hemphill and Bolsinger also shot excellent golf and won second prize with a gross 77, with a 10 handicap and net 67. They each received three balls. Hackett and Dormer shot a net 69 and won third prize and two balls each. Two balls each went to Thompson and Black with a net 71. Luke and William Hughes came in with a net 72 and captured fifth prize and one ball each.

PBF

THE PEAK OF PERFECTION IN BRASS FITTINGS

PHOENIX BRASS FOUNDRY
IRVINGTON, N. J.

ERW

Furnished with 5/8 or 3/4 shank and high pressure compound lever.

Remove only one thumb screw to take out plunger and replace seat discs.

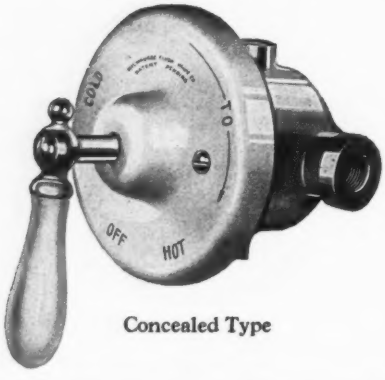
ENTERPRISE BALL COCKS

Enterprise Ball Cocks have made themselves a reputation by giving long never-failing service. They require no servicing and are easy to install.

ASK YOUR JOBBER

ENTERPRISE BRASS WORKS
Muskegon Michigan

Our Catalog



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ANOTHER JUDELL PRODUCT

The "IMPROVED"
Milwaukee Mixing Valve
PATENT PENDING

As its name indicates, the "Improved" Milwaukee is a BETTER mixer, more accessible,

WITH ONE PLUNGER

—the ultimate in simplicity. High grade red brass castings, all working parts renewable, no binding, positive closure, making this mixing valve

THE KIND OF VALVE YOU CAN'T WEAR OUT

For a complete line of concealed showers and fixtures, ask for our new catalog "F"

ORDER FROM YOUR JOBBER

Manufactured by
Milwaukee Flush Valve Co.
Milwaukee, Wis., U. S. A.

The evening brought a good dinner, and plenty of entertainment was provided by local talent. The next meet will be held at the Llanerch Country club.

WESTERN NEW YORK GOLF ASSOCIATION'S JUNE MEETING

N. Loring Danforth is the first golfer to have his name engraved on the loving cup which goes to the winner of low net in the Western New York Golf Association's monthly tournaments. Mr. Danforth turned in a 76 net to top the field in the June tourney held over the Country Club of Buffalo, N. Y., course, where members of the trade were guests of A. A. Landon, president of the Landon Radiator Co., of North Tonawanda, N. Y. Any contestant winning the cup three times will gain permanent possession.

Walter Voisnet, with an 85, won low gross honors, while P. S. Hedley with a high gross of 170, was awarded the Duffer's cup. The next meet is scheduled for July 14th, at Transit Valley Country Club, where the members of the association will be the guests of C. W. Farrar. Net scores follow:

F. J. Chittenden, 86; A. A. Landon, 90; Charles Evans, 94; P. S. Hedley, 130; C. W. Farrar, 86; A. A. Ahlff, 86; N. L. Danforth, 76; Sam Houghton, 84; G. B. Strausner, 77; H. Schaefer, 100; L. N. Castin, 100; McWarter, 82; Carfer, 97; Novatney, 86; E. J. Rogers, 84; W. Spencer, 93; Voisnet, 80; Corwin, 82; McCalbud, 128; G. W. Crane, 94; Paul Bird, 104; H. Hexamer, 85.

Personal Mention

George P. Cartwright, vice president in charge of sales for S. S. Fretz, Jr., & Co., Philadelphia, has again been unanimously chosen president of the Penn-Jersey baseball league. Mr. Cartwright is prominent in amateur athletic circles in Philadelphia.

Martin Erickson, of the M. S. Little Mfg. Co., Hartford, Conn., is spending a short time with **J. W. Worthington,** the concern's Philadelphia representative, in the Wyoming Valley. At the completion of this trip, Mr. Erickson will make a selling trip through the South.

F. W. Broatch, manager of the United States Sanitary Mfg. Co.'s New York office, is rapidly recovering from a minor operation performed late last month. After leaving the hospital Mr. Broatch was confined to his home for a few days.

Edward Keating, of E. F. Keating Co., New York City, is on a combined honeymoon and vacation. Mr. Keating, who was married recently, and his bride sailed June 16 for Europe, where they will spend several weeks.

Norman Farlow, of Holbrook, Merrill & Stetson, San Francisco, who has been visiting his parents in Philadelphia for the past several weeks, expects to be back at his office on the West Coast about July 10.

Gordon Black, representative for the Woodward-Wanger Co., of Philadelphia in the Great Northwest, with headquarters at Portland, Oregon, passed through Chicago last week on his way back to his territory after spending several weeks in Philadelphia on account of his mother's illness.

Harry R. Myers, until recently manager of the Philadelphia branch of the Tomlinson Co. and before that connected with the American Radiator Co., has resigned his position with the former concern. He has not yet announced his plans for the future.

Harry Erickson, formerly with the American Radiator Co., has joined the sales force of the Haynes Selling Co.,

Philadelphia. He will cover the city territory for this company.

Robert A. Ware of Miami, Fla., has recently been appointed sales representative of the Cooper Sanitary Mfg. Co., Philadelphia. His territory will be the entire state of Florida.

E. A. Neupert, manager of the Pacific Coast Division of the Walworth California Co., left June 15 for the Northwest, to be gone several weeks. Besides visiting at his company's branches in Portland and Seattle, Mr. Neupert will spend some time in adjacent trade territory.

Henry Pomerene, formerly connected with the Walworth California Co., is now identified with E. A. Cornely, Inc., distributors of oil burner equipment, with headquarters at 1452 Bush street, San Francisco, Calif.

Joseph Howell, who has been representing the Stockham Pipe & Fittings Co., at San Francisco, Calif., has been transferred to his company's factory and head office at Birmingham, Ala.

G. V. Wells has recently been appointed Minneapolis, Minn., representative for the Woodward-Wanger Co., Philadelphia. He was formerly a representative of Crane Co., in that city.

J. I. Janette has recently been made vice president of the Monroe Machine Tool Co., of Chicago.

New Trade Literature

Continental Heater Corporation's Folder

Continental Heater Corporation, of Dunkirk, N. Y., is distributing a folder containing a cut-away view of its square boiler and illustrations of various of its radiators. The important features of the boiler are pointed out.

American Foundry & Furnace Co.'s Catalog

American Foundry & Furnace Co., of Bloomington, Ill., has published a catalog descriptive of its "ventilating specialties for the control of air in ventilating work." Wire grilles, back pressure dampers, diffusers, access doors, radiator brackets, etc., are included in the catalog.

The Foxboro Co.'s Folder

The Foxboro Co., Inc., of Foxboro, Mass., is sending out a folder with the caption, "The Eternal Quest." The folder calls attention to the saving which may often be effected by the use of controllers on steam valves in large industrial installations.

Ironton Bernhard Boiler Co.'s Folder

A folder being distributed by Ironton Bernhard Boiler Co., of Ironton, Ohio, describes the company's triple combustion boilers. A technical description of the boiler is given, and the folder is illustrated by a front view and two cross section views of the boiler.

Kleenburn Co.'s Folder

Kleenburn Co., of Milwaukee, Wis., has just issued a folder describing its garbage incinerator. Part of the folder is devoted to a sales talk, pointing out the convenience of an incinerator. There is also a section giving instructions for the installation and also for the operation of the incinerator.

"How Los Angeles Protects Her Bathers"

This is the subject of a bulletin just published by Graver Corporation, of East Chicago, Ind. In the sixteen pages of the bulletin the Los Angeles municipal swimming pools and their construction and operation are described. These pools are equipped with the Graver Corporation's refiltering and circulating system, which is also described and illustrated.

PRIER UNION ELBOW

Built Right

We use extreme care in making Prier Union Elbows. Nickel plated all over, with polished connections. Once installed they are good for a lifetime of service.

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PIPE DIES *and* STOCKS

Improved Design—Cut Like Lathe Tools

Dies are Alloy Tool Steel. Chasers are backed off making them easy cutting and long lasting.

ARMSTRONG BROS. TOOL CO.

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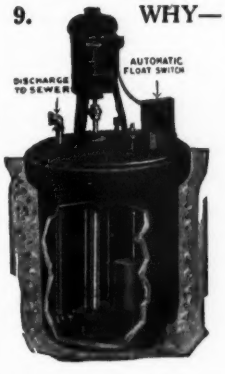

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Automatic Midget

SUMP PUMP

—weighs 165 pounds. Every pound serves a useful purpose to keep the pump in perfect operating condition, *always* ready for any work required of it.

BE SURE! INSTALL A TABER

Write for Bulletin MJ 727 NOW!

Building quality pumps 68 years TABER PUMP CO., BUFFALO, N.Y.

Deming

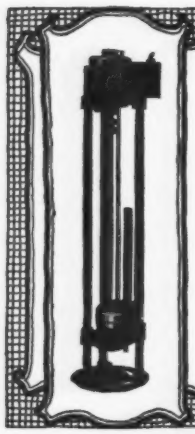
DEMING Power Pumps comprise a complete line of pumping equipment designed for every requirement. Fig. 1062 (illustrated here) is an Automatically Oiled Deep Well Pump of exceptional merit. Send for Water System Catalog G which describes and illustrates all types of Deming Automatically Oiled Pumps and Water Systems.

The Deming "Oil-Rite" Deep Well Pump Fig. 1062

THE DEMING COMPANY

Established 1880 SALEM, OHIO

HAND AND POWER PUMPS



It's New

The Rathbun Basement Drainer is *new* in principle and design but, while this design is new to the field, it is what all agree is the ideal basement drainer.

Write for full details about this 100% perfect pump.

The Rathbun Co.

1036 Beaubien St., DETROIT, MICH.

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Ask Your Wholesaler About

Michigan Smelting and Refining Co. now operating Capitol Brass Works

STA-PAK VALVES

They Never Need Re-packing

CAPITOL BRASS WORKS

MANUFACTURERS OF BRASS VALVES, BOILER TRIMMINGS AND PLUMBERS' BRASS GOODS

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Lead Roof Flanges

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No Calking Necessary

When ordering state SIZE and *PITCH* desired

PRICES NO HIGHER than asked for IMITATIONS

Use No Other

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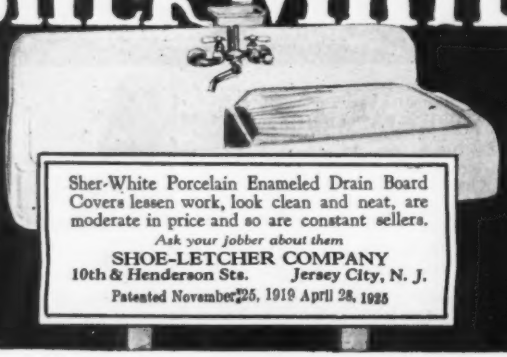
SHER-WHITE



Sher-White Porcelain Enameled Drain Board Covers lessen work, look clean and neat, are moderate in price and so are constant sellers.

Ask your jobber about them

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Patented November 25, 1919 April 28, 1925

"Long Pipe Lines with Oxwelded Joints"

A pamphlet entitled "Long Pipe Lines with Oxwelded Joints" has just been published by the Linde Air Products Co., of New York City. This publication shows how engineers and managers in the oil and gas industries have solved the problem of troublesome pipe joints. Opinions of many engineers, on the subject of the welded joint, are quoted. A series of high-grade illustrations show the welding of pipe lines at river crossings, in mountainous country and in many other districts of varied topography.

Catalog No. 83 of Kewanee Boiler Co.

Kewanee Boiler Co., of Kewanee, Ill., has issued Catalog No. 83, dealing with its slim type radiator. Three-, four-, five-, six- and seven-tube radiation is described, and tables of dimensions are given. Roughing-in measurements and diagrams are also included in the booklet. Pin indirect radiators, wall radiators and adjustable radiator brackets are other articles listed.

Reading Iron Co.'s Circular

Reading Iron Co., of Reading, Pa., is distributing a folder containing a series of thirty illustrations of institutional, industrial and office buildings in which its pipe was installed. The names and locations of the buildings are given, as well as data concerning the company's product.

Excelso Products Corporation's Folder

A folder with the title "Hot Water for Large Buildings Practically Without Cost" is being distributed by Excelso Products Corporation, of Buffalo, N. Y. The folder contains testimonial letters from users of the company's water heaters, and also shows several illustrations of these heaters.

"How to Ward Off Souvenir Hunters"

A small folder entitled "How to Ward Off Souvenir Hunters" is being distributed by Hoffman Specialty Company, Inc., of New York City. The folder describes a valve lock which prevents the pilfering of the company's valves from radiators. The method of installation is described and shown by three illustrations.

New Equipment

A New Automatic Shut-Off Valve for Oil Burners

One of the contributions of 1927 to the oil burner industry is an electric oil valve which is designed to provide safety against the current changes and voltage fluctuations found in many localities. The valve closes immediately when the current fails. It is designed to eliminate sticking or other causes which might prevent such a device from operating. This valve which is listed by Underwriters' Laboratories, is motor controlled and can be mounted in any position.

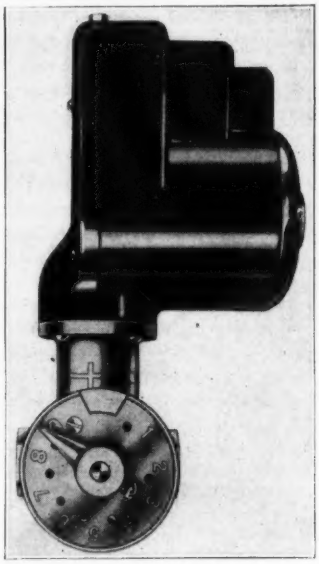
When the circuit is made the rotor of the motor revolves and the gears cause the valve plunger and valve disc to lift. The valve will remain open as long as the circuit is continued. A monel metal spring is compressed with the opening of the valve. As soon as the circuit is broken either normally or in the event of current failure, the spring expands and forces the valve to its seat under 20 lb. pressure which is sufficient to make a positive shut-off against oil at 15 lb. pressure, seldom if ever found at the intake of a domestic oil burner.

The motor is the induction type. Attention is called by the manufacturers to the simplicity of such motors on account of the absence of brushes, commutators, armature windings, etc. It is stated that a 15 per cent voltage fluctuation will not affect its operation. The power consumed is comparable to that of the ordinary 25 watt lamp.

No packing is used to keep the oil from actuating the

mechanism. A seamless metal bellows expands as the valve closes and contracts when the valve opens, maintaining a seal against leakage.

This oil valve is available in three types, either ¼-inch or ⅜-inch connection. One type is a straight through



valve, another has a metering adjustment to control the volume of oil to the burner, still another is for use with the high-low flame type oil burner and has metering adjustments for both high and low flame oil flow. It can be furnished for 110 to 120 volts,—25, 30, 40, 50 and 60 cycle current. It is not available for direct current.

July 6, 1907

The silver anniversary convention of the *National* Association of Master Plumbers was held at Louisville, Ky., June 25, 26 and 27, with President R. B. Moodie in the chair. T. A. Hill, of New York City, was nominated for president for the coming year, by John A. Trainor of Baltimore. The nomination was seconded by E. D. Hornbrook, of Kansas City, and B. Jos. O'Donnell, of Syracuse, N. Y. Mr. Hill was unanimously elected president for 1907-08. William H. Halsey, of Milwaukee, Wis., was elected vice president. William McCoach, of Philadelphia, was re-elected treasurer, and T. S. Cochrane, Jr., was appointed secretary.

———1907———

The John Wood Manufacturing Co., of Conshohocken, Pa., has bought six acres of land across the river from its present plant, on which the company is erecting a building 100x250 ft. There is also a building now on the land, 115x300 ft.

———1907———

The managers, foremen and assistant foremen of the Kelly & Jones Co. plant at Greensburg, Pa., held their first annual banquet at the Hotel Ehalt in that city. There

OHIO Kerosene WATER HEATER

For Years--

After you install an Ohio heater, you have left behind you for your customer a source of hot water for years.

And it'll be a matter of many years before the Ohio will need any service of any kind.

Ohio Heater facts are yours for the asking. Write us now.

OHIO HEATER CO. COLUMBUS, OHIO

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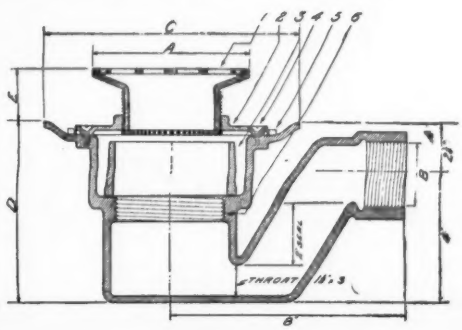
A Trade Name

Means in shower trap construction one that the lead pan is secured to trap body with a caulked joint, and that the lead pan was tested by being filled with water.

There is no chance for leaks where Boosey's shower traps are installed.

NORMAN BOOSEY MFG. CO.
(Successors to Greenwood Mfg. Co.)
5140 HAMILTON AVE. :: DETROIT, MICH.



Every Rundle Sale Pays an Added Profit

On every Rundle sale you gain an additional profit—for the ease of installing Rundle Ware saves time and reduces labor cost.

Every piece of Rundle Ware is made to insure a close, accurate fit. No expensive "tie-ups" and delays arising from ill-fitting pieces.

Designers of Rundle Ware study actual conditions in the home and originate practical as well as beautiful designs. The convenience of Rundle Ware pleases the most critical buyers. The color is a rich pure white—frequently a measure of comparison.

For more than 25 years Rundle has adhered to the strictest standards in the manufacture of this high grade Enameled Ware. The Rundle label on each piece is your customer's guarantee of an unvarying standard of value.

Write for catalog and name of jobber nearest you.

Rundle Mfg. Company
Milwaukee, Wis.

RUNDLE
PLUMBERS' SANITARY ENAMELED WARE

were about fifty in attendance, including representatives from Pittsburgh, Chicago and New York.

———1907———

R. E. Holaday, United States Consul of Santiago de Cuba, writes that the completion in August of the new waterworks in that city will furnish "an opening for three or four first-class plumbers, as there is no one in the city who has sufficient technical knowledge to do first-class work in this line." The storage reservoir has a capacity of 600,000,000 gallons. The service reservoir, or settling basin, is built entirely of concrete and has a capacity of 2,250,000 gallons.

———1907———

The Master Plumbers' Association of Kentucky met June 24 in Louisville, just before the convention of the national association. Jacob Isaacs, of Louisville, was re-elected president, and George F. Roser was re-elected secretary-treasurer.

———1907———

The North and Northwest Side Master Plumbers' Pleasure Club held its third annual family outing and basket picnic in Kolze's grove, on the Desplaines river, on Sunday, June 23. E. C. Wagner is president of the club.

———1907———

Edward Kanney is making extensive alterations to his plumbing establishment in La Porte, Ind.

———1907———

Graeber Brothers, of Lawrence, Kans., have secured the contract for plumbing the new buildings which the government soon will erect at Fort Riley. The consideration is $12,000.

———1907———

An ordinance has been introduced at St. Paul, Minn., to provide an examining board for the licensing of all plumbers who engage in business in that city.

———1907———

L. A. Cornelius, of the Wolverine Brass Works, Grand Rapids, Mich., has arranged for work on the Canadian branch factory at Chatham, Ont., to be commenced at once.

CONVENTION DATES

July 16, 17 and 18, 1927.—The seventh annual convention of the Wisconsin Society of Plumbing Inspectors, at Kenosha, Wis. The sessions will be held in the council chambers in the city hall.

August 9, 10 and 11, 1927.—The annual meeting of the American Society of Sanitary Engineering, at Jacksonville, Fla.

September 28, 1927.—Tentative date of meeting of Advisory Committee on Vitreous China Plumbing Fixtures, Department of Commerce building, Washington, D. C.

HERE ARE THE ANSWERS

(Questions will be found on page 23)

1.—Three.

2.—Eleven.

3.—The cooling surfaces of the building.

4.—In Chicago.

5.—In 1919 at Atlantic City, N. J.

6.—To keep the contents from siphoning out of the boiler.

Coming Trade Events

July 12, 1927.—July tournament of Western Trade Golf Association, at Olympia Fields Country Club. This will be a joint tournament with the Plumbing Contractors' Association of Chicago and the Chicago Chapter of the American Society of Heating and Ventilating Engineers.

August 11, 1927.—August tournament of Western Trade Golf Association at Westward Ho Country Club.

September 8, 1927.—September tournament of Western Trade Golf Association at Glen Flora Country Club, Waukegan, Ill.

THE TRADE

WITH MASTER PLUMBERS AND HEATING CONTRACTORS

N. & N. W. MASTER PLUMBERS' PLEASURE CLUB OF CHICAGO TO HOLD ANNUAL PICNIC JULY 20TH

The annual basket picnic of the North and Northwest Master Plumbers' Pleasure Club of Chicago will be held on July 20 at Viana's Grove, Park Ridge, Ill. An excellent program of athletic events, including races for the children and the grown-ups, and a baseball game between the regular and associate club members, has been arranged by the entertainment committee. Attractive prizes will be awarded for each event. Refreshments will be served on the grounds, but families are asked to bring their lunches with them. There will be dancing for those who desire this form of recreation. The grove can be reached by taking Milwaukee avenue to Northwest highway, and following the highway to Center street, Park Ridge; west on Center street to Dee road and one block south to the grove.

BALTIMORE VOCATIONAL SCHOOL GRADUATES FIRST PLUMBING CLASS

Graduation exercises were held by the Baltimore, Md., Vocational School of Plumbing for the first time, at the Clifton Park Junior High school, recently, in connection with exercises held by all branches of the city's vocational education department. Four part-time students and one full-time student received certificates on a par in educational value with those given high school graduates in other courses.

Those who were the first to graduate from the three-year part-time course were Henry Schmuff, John Zeigler, John Imhof and Marion Neighoff. Albert Bing received credit for the full-time course of two years.

Commencement exercises were held before an enthusiastic audience which filled to capacity the large auditorium of the school, which is one of the finest in the city. Charles W. Sylvester, director of vocational education, awarded the diplomas to 68 boy and girl graduates of the many schools. There was a brief program of speaking and a fine program of musical selections given by the vocational school orchestra.

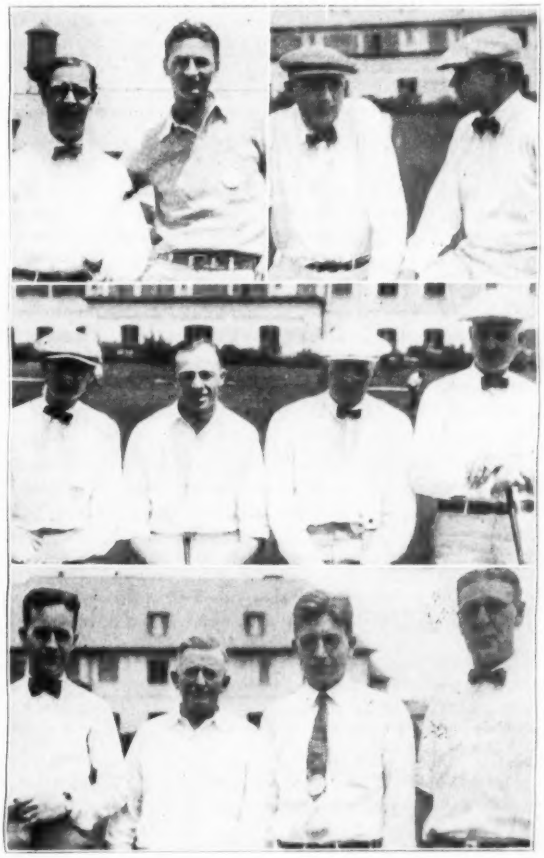
The plumbing class was small in comparison with many other groups, but it was pointed out by Leroy S. Nichalson, their teacher, that theirs was the last group to be organized, and present facts indicate that there will be a substantial increase next year. It was also pointed out that another branch, which held its first commencement exercises a year ago, had only four graduates in this, its second year.

An interesting exhibition of the work done by the boys in the plumbing school was held in connection with the commencement exercises. There were photographs of the students at work, both in classroom and on assignment at various practical tasks. There were also examples of drawings, designs and maps made by the boys, and samples of plumbing fixtures which had been made or repaired by them.

The advantage of this training to the boy is seen in the eagerness with which master plumbers offer employment to those fortunate enough to graduate. The part-time students, of course, continued in their situations, to the satisfaction of their employers, and the full-time graduate was snapped up for a job on the first day following the close of school.

THIRTY YOUNG MEN FINISH PLUMBING COURSE

The continuation school at Poughkeepsie, N. Y., issued certificates to thirty young men who satisfactorily completed the prescribed course in plumbing. This is the third year of the plumbing department in that city institution which is supervised by Lee Taplin. Joseph Ehleider is the instructor of practical work, Robert James teaches science, and Robert Vecormier is instructor in drawing. One of the major requirements of the school is that pupils must be employed by master plumbers to work at plumbing while attending.



Top row: H. G. Scheel, W. G. Zingheim, John A. Corboy and Frank B. Hackett.—Middle row: F. W. Fix, Jr.; P. W. Woodbury, L. W. Charlet and J. V. Liddy.—Bottom row: N. Paul Fenner, W. J. Street, E. W. Thomas, Jr., and George E. Egan. —From photographs taken at the June meet of the Western Trade Golf Association

Women's Auxiliaries

Wants Name for Scholarship

A communication received from Mrs. Edwin D. Hornbrook, president of the Women's Auxiliary to the National Association of Master Plumbers, is as follows: "At the ninth annual convention of the Women's Auxiliary to the National Association of Master Plumbers it was voted to name the 1927-1928 national scholarship 'The Emily Virginia Hornbrook Scholarship.' This cannot be, as 'The Edwin D. and Emily Virginia Hornbrook Scholarship' is in the making. Therefore it is necessary that another name be chosen. Auxiliaries, please send names of master plumbers to the office of the Women's Auxiliary to N. A. M. P., 521 Garfield avenue, Kansas City, Mo. As a suggestion we present the name of a charter member and an honorary member of the National Association of Master Plumbers, also an honorary member of the Chicago Plumbing Contractors' Association: Alex W. Murray, of Twin Falls, Idaho. Mr. Murray is an ardent admirer of Women's Auxiliaries and would deeply appreciate this honor."

East Side Auxiliary Gives Luncheon

The East Side Ladies' Auxiliary recently enjoyed a luncheon and card party in the Community House lounge, East St. Louis, Ill. Mrs. Ben Vodde and Mrs. Parker T. Hammond were acting hostesses at this most successful affair. One o'clock luncheon was served at tables decorated with flowers. Bridge and other card games were enjoyed during the afternoon. Fifteen ladies were present at this meeting, which was the last scheduled until fall. Plans were made for a picnic to be held in Belleville some time this month.

Building News

Although the greater part of the operations of large proportions which have been reported this week are contemplated projects, only one being a contract awarded item, it will not be a great length of time before these projects are under way, and the plumbing and heating work being let. Thus encouragement for the business for the present is the outlook. Below are some of the larger projects reported during the week:

Oakland, Calif.—Financial arrangements have been completed and sketches are being prepared covering the new Masonic building to be erected at the corner of Thirteenth and Harrison streets at a cost of $3,000,000. The structure will be a steel-framed, class A, office and lodge building. It has not yet been decided how many stories will be included, but the building will be featured by a number of accommodations and facilities that will place it well in the forefront of those of similar character in the West. Edward T. Foulkes, 357 Twelfth street, is the architect.

***Portland, Me.**—Calvin S. Lane, 77 Roberts street, is to prepare the plans for a 14-story brick and steel apartment hotel building to be built on High street for Fink Brothers. It is expected the new project will cost around $1,000,000.*

Washington, D. C.—W. G. Cornell Co., 18 Patterson street, has the plumbing contract in the erection of the $1,947,000 McKinley High School.

New Haven, Conn.—The Yale School of Medicine, in co-operation with the New Haven Hospital Association, has had plans prepared by Henry C. Pelton, of New York, for a brick, steel and limestone laboratory addition to the Anthony N. Brady Memorial Laboratory. The addition will be 180 by 240 feet, four stories high, and will include classrooms, offices and operating rooms, together with the departments of pathology, bacteriology and surgery to suit the purposes of the New Haven Hospital as well as the Yale School of Medicine. The project is estimated to cost about $1,250,000.

Muncie, Ind.—Plans are under way at the office of architects Kibele and Garrett for the new $1,000,000 Ball Memorial Hospital.

Rochester, N. Y.—Preliminary plans for five new buildings for the Rochester State Hospital have been received by Dr. Eugene H. Howard, superintendent of the hospital. Plans call for the erection of two large buildings to house patients, a kitchen, a dining room building and a laundry. The hospital has been allowed $1,250,000 for construction purposes. Sullivan W. Jones, head of the division of architecture, is in charge of the plans. Bids will be called for within a month, it is expected.

Dallas, Tex.—W. M. Whitenton, 4401 Highland Drive, has been appointed chairman of a committee promoting the construction of a non-sectarian children's hospital, ultimate cost of which will exceed $1,550,000. Preliminary plans call for immediate construction of the first unit at a cost of $550,000.

Schools

Clemson College, S. C.—The heating and plumbing contracts have been let to L. L. Barr & Co., of Greenville, S. C., on the new Clemson College engineering building.

Brushton, N. Y.—The contract for the building of the new grade and high school has been awarded to Arnold & Blewett, general contractors of Syracuse, N. Y. The cost will be $110,000.

Danville, Ky.—A bond issue of $90,000 has been voted for the purpose of financing a new school on Maple avenue.

Evansville, Ind.—The Board of School Trustees will erect a high school building at a cost of $93,000. H. E. Boyle, Furniture building, is the architect.

Chehalis, Wash.—George Lehmeier was awarded the plumbing contract on the new $130,000 Junior high school, with a bid of $5,000. The heating contract went to the Heating & Ventilation Equipment Co., of Seattle, at a figure of $21,700. Hastorf & Lord of Portland, Ore., bid $24,500 as an alternate on steam heating.

Lewiston, Idaho—The heating and plumbing contracts on the Lewiston Orchards school have been awarded to Charles Hahn, with a bid of $3,824.

Yelm, Wash.—J. E. Schlosser of Olympia has secured the heating and plumbing contracts on the new grade school here.

Los Angeles, Calif.—Plans for an $84,000, two-story school building at Fourth and Kern streets are being completed by Architect Armand Monaco, 701 Pershing Square building.

Portland, Ore.—The Alaska Plumbing & Heating Co. was low bidder on the heating and the Richmond Plumbing & Heating Co. on the plumbing for the new school in the Lynch district.

Seattle, Wash.—Architect William Mallis is drawing up plans for the new Oak Lake school, including classrooms, kitchen, cafeteria and auditorium. Plumbing and heating figures will be called for in a few weeks.

Minneapolis, Minn.—Healy Plumbing & Heating Co., 278 West Fourth street, St. Paul, with a bid of $35,563, was the low bidder on the plumbing, steam heating and ventilating for the three-story law school building to be

built at the University of Minnesota, this city, at a cost of $250,000. M. J. O'Neil, 607 Exchange Bank building, St. Paul, was low bidder on the plumbing only, with a bid of $12,220. O. P. Bahneman, 1316 Marquette avenue, was low bidder on the steam heating and ventilating only, with a bid of $22,310. C. H. Johnston, 715 Capital Bank building, St. Paul, is the architect, and the Pillsbury Engineering Co., 2344 Nicollet avenue, are the mechanical engineers.

Redwood City, Calif.—Snook & Company, 565 Clay street, San Francisco, were the successful bidders for the plumbing and heating contracts for the $148,000 grammar school.

Palo Alto, Calif.—*J. H. Pinkerton, 927 Howard street, San Francisco, has secured the plumbing and heating contracts on the $150,000 athletic building at Stanford University.*

Appleton, Wis.—W. S. Patterson Co. has been awarded the contract to make alterations to the heating and ventilating systems in the Lincoln school.

Whitefish Bay, Wis.—W. F. Adams, Milwaukee, has been awarded the plumbing contract for the parochial school under construction for St. Monica's Catholic congregation, and the Zuehlke-Stoehr Heating Co. has been awarded the heating contract.

Sheldon, Wis.—*The American Foundry and Furnace Co., Milwaukee, has been awarded the heating and ventilating contract for the school under construction.*

Pikeville, Tenn.—Adams and Whitaker have the heating contract, and Knoeder and Meredith, 119 West Seventh street, have the plumbing contract in the erection of the new high school building.

Anniston, Ala.—The Collins Plumbing Co. has the heating and plumbing contracts in the erection of new schools on Noble street, Woodstock avenue and Pine avenue.

New Albany, Ind.—The Kentucky Plumbing Co., of Louisville, Ky., has the plumbing contract in the erection of the Mt. Tabor Consolidated school building near Mt. Tabor church, in New Albany Township.

East Hampton, Conn.—The School Plan Service Bureau, 363 Main street, Middletown, has prepared plans for a two-story brick school, 45x112 feet. Bids will be called for shortly.

Cambridge, Mass.—Bids are being received for an aeronautical engineering building to be built for the Massachusetts Institute of Technology at a cost of $225,000. Coolidge & Carlson, 89 State street, Boston, have completed plans for a brick, steel and limestone building 60x160 feet, to be three stories high with a basement.

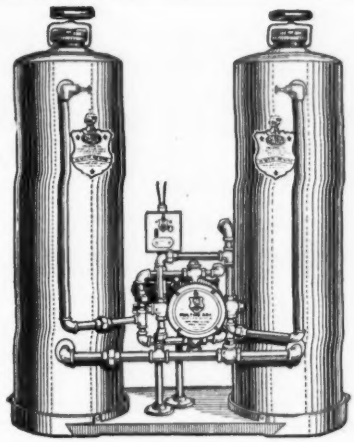
Churches

Fremont, Nebr.—Plans are being made for a four-story, 62-bed hospital for the Missouri Synod Lutheran church, to cost $160,000. Harvey C. Peterson, 425 Bankers Reserve Life building, Omaha, is the architect.

New Orleans, La.—Sam Stone, Jr., & Co., Masonic Temple building, have completed plans and specifications and are ready for general contract bids for the construction of the church building for the Canal Street Presbyterian church on Canal and Hennessy streets.

Berlin, Wis.—John F. Ahern Co., of Fond du Lac, Wis., has been awarded the heating contract for the church under construction for St. Michael's Catholic congregation.

Marion, Wis.—M. B. Quall, of Clintonville, Wis., has been awarded the heating and plumbing contract for the



ANNOUNCING

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Saves 50% to 70% of fuel bills.
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McDermott Water Heaters, Inc., 101 Park Ave., New York City

church under construction for St. John's Lutheran congregation.

Sheboygan, Wis.—Otto Junck has been awarded the plumbing contract for the $90,000 church and parochial school building under construction for St. Dominic's Catholic congregation.

Milwaukee, Wis.—The Wenzel and Henoch Co. has been awarded the heating contract for the $150,000 school, church and auditorium being built for the St. Ignatius' Catholic congregation at Thirty-first avenue and Mitchell street.

Baltimore, Md.—Thomas Hicks & Son, builders, have closed a contract to build a church for the congregation of St. Mark's-on-the-Hill Protestant Episcopal Church, Pikesville, a suburb of this city. Taylor & Fisher are the architects.

Akron, Ohio—The Arlington Street M. E. Church will build a new edifice. A. H. Koca is treasurer of the board of directors.

Canton, Ohio—St. Joseph's Church will erect a new edifice at a cost of $750,000. E. P. Grahan, 171 Newberry street, Boston, Mass., is the architect.

Baltimore, Md.—Davis and Boublitz, 902 West Thirty-sixth street, have the plumbing contract for $250,000 additions to the St. Mark Methodist Church, at Garrison boulevard and Liberty Heights avenue.

Kansas City, Mo.—E. K. Campbell Heating Co., 2441 Charlotte street, has the heating contract, and E. M. Buckley, 1706 Summit street, has the plumbing contract in the erection of the building at Fifty-third and Park streets for the Christ E. L. Church.

Gainesville, Tex.—The plumbing contract has been let to M. Thomas, North Denton street, in the erection of the Dixon Street Christian Church building.

Utica, N. Y.—The building program of St. Stanislaus Church calls for the erection of three buildings, including a handsome stone church. With the completion of the

Top picture: Ralph Bass of the Bronx; William G. Bergner, secretary of the National Trade Extension Bureau; James Loughran of Freeport, L. I.; Robert Law of the A. M. Byers Co.; William W. Metcalf of Freeport; Mrs. James Loughran. —Bottom row: Charles A. Schleininger of Stapleton, L. I.; Jacon Jarcho and Maurice Jarcho, both of New York City; Col. William G. Archer of the National Trade Extension Bureau. Photos taken at the annual convention of the New York state association held recently in New York City

church the present brick building will be remodeled into a parochial school, with a rectory built in front. The present rectory will be torn down and replaced by a convent. The work it is stated, will require several years to complete.

Pasadena, Calif.—A $500,000 church for the St. Andrew's Catholic Church parish is in process of erection at Raymond avenue and Chestnut street. The materials used are reinforced concrete and structural steel, with brick, stone mosaics and antique plaster for the exterior. Ross G. Montgomery, Chamber of Commerce building, Los Angeles, is the architect.

Municipal and Government Work

Portland, Orc.—Green and Green received the general contract from the city for the new fire station at East Eleventh and Stark streets.

Steubenville, Ohio—The City of Steubenville will erect a concrete stadium, at a cost of $125,000. Peterson and Clarke, local architects, have completed plans, which now await approval of the city council.

Windsor, Vt.—E. H. Keir has been awarded the plumbing and heating contract for the addition to the Vermont State Prison. The contract called for 150 water closets and 150 lavatories. Mr. Keir also has been awarded several other nice contracts recently.

Bristol, Conn.—Payne & Keefe, 231 State street, New London, have been selected to prepare plans for a State armory building to be built on Valley and Center streets at a cost of $150,000.

Camden, Me.—A. H. Parsons, 2 Bay View, was recently awarded the plumbing and heating contract for the proposed new public library building for the town. Charles G. Loring of Boston, Mass., drew the plans for the building.

Ogdensburg, N. Y.—Plans for the new City Hall are ready for contractors. Bids on this building were received some months ago, but all bids and plans were discarded and plans revamped to come within the appropriation.

East Lake, Birmingham, Ala.—The heating contract has been let to the Culley Plumbing and Heating Co., and the plumbing contract to T. J. Reece, 309 Forty-fourth street, Fairfield, in the erection of the branch library at Seventy-seventh street and Sloss avenue.

Oshkosh, Wis.—Carl Marquardt has been awarded the plumbing contract and the Engel Heating Co. has been awarded the heating contract for the fire station under construction.

Dallas, Tex.—The Hamilton Co., with a bid of $23,700 was low bidder on the plumbing contract in the erection of the $600,000 Dallas County Hall of Records.

Institutions

Ogden, Utah—The T. E. Thomas Plumbing Co. has been awarded a $36,000 plumbing and heating contract for the addition to the Dee hospital.

Utica, N. Y.—Oneida County is considering several sites for the location of the proposed new County Tuberculosis sanitarium. The Brucker property in Deerfield has been recommended by Jamieson Marshall, engineer and secretary of the National Tuberculosis Association.

Cincinnati, O.—Rendigs, Panzer and Martin, architects, are working on plans for a three-story hospital building for the county home, to be erected by the county commissioners at a cost of $214,000.

RAVENA Cast Iron Products

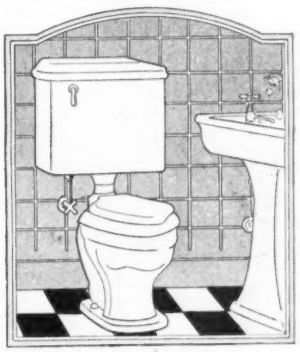
Here are just a few of the RAVENA line of cast iron specialties.

They are used by hundreds of plumbers in the highest grade work.

Write for full details of the RAVENA line—a true time and money saving proposition

RAVENA IRON CO.
RAVENA N. Y.

CURTIN



Where the job is particular Curtin is the installation.

Curtin Noiseless Tank Fittings render years of quiet, efficient service.

Nationally Advertised.

A. F. CURTIN VALVE CO.
Medford :: :: Mass.

EAFCO TRADE MARK

Trap Screw Ferrules with Full Regulation Size and Weight Brass Plugs.

A-20

Standard Competition with Brass Plug.

A-21

Standard Competition Pattern with Flanged Cover.

A-24

Extra Heavy Competition Pattern with Brass Plug.

A-22

Boston Regulation and Ohio Code with full size plug with hollow nut.

A-23

Extra Heavy New Style New York Regulation with full size opening to admit test plug and full size Brass Plug with Solid Nut 1 in. high.

"Eafco" Products are manufactured with full realization that upon good equipment only rests the plumbing contractor's ability to turn out perfect work.

The Trap Screw Ferrules shown are made of the best metal, tapped properly and rigidly inspected. They will give infallible service and they are easier to work with.

EASTERN FOUNDRY COMPANY
Boyertown, Pa.

Cincinnati, Ohio—Hamilton County Commissioners will soon seek bids on a tuberculosis hospital to be erected on Lick Run. D. W. Drach, Union Trust building, has plans in progress for the structure, which will cost about $250,000.

Ashtabula, Ohio—George Darling has been given the plumbing award on the children's home to be erected by the county. His bid was $13,884. The Carter Heating Co., of Rocky River, will put in the heating, having received the contract with a bid of $11,283.

Tougaloo, Miss.—The Paine Heating Co., 127 South State street, Jackson, Miss., has the heating contract, and the Davis Plumbing Company, 115 South State street, Jackson, has the plumbing contract in the erection of the new hospital for Tougaloo College.

Bangor, Me.—The State of Maine is receiving bids for an addition to the State Hospital for the Insane on State street. Plans by C. P. Crowell and W. S. Lancaster, Exchange building, call for a 4-story brick and steel addition, 35x115 feet with a wing 35x130 feet, to cost $300,000.

Exeter, R. I.—The State of Rhode Island is calling for bids for a girls' dormitory and workers' building at Exeter State School. Plans by William R. Walker & Son, 49 Weybosset street, Providence, call for a structure to cost $175,000.

Concord, N. H.—The plans for the proposed $160,000 nurses home to be erected at the New Hampshire State Hospital are ready for bids. Wells & Hudson, an architectural firm of Hanover, N. H., is preparing plans for a three-story stone and concrete building 40x110 ft. with an ell 40x60 ft.

Industrial

Mobile, Ala.—Bids are to be asked immediately on completion of plans and specifications for the erection of a warehouse for the new state docks on Pier 1, by the engineers of the Alabama State Docks Commission.

Milwaukee, Wis.—The L. R. Stollberg Co. has been awarded the plumbing contract for the factory building under construction on Oklahoma avenue for the Racine Radiator Co.

Celina, Ohio—The T. Brandt Furniture Co. of this city will erect a factory here. A. F. DeCurtins of Lima, Ohio, is the architect.

Utica, N. Y.—The Beacon Oil Co., Everett, Mass., will build a warehouse, garage, pump house and other buildings, together with storage tanks of two million gallons capacity, the company making Utica a distributing center for petroleum products.

Stores and Office Buildings

Montgomery, La.—Frank Tennille, manager of the Tennille Furniture Company here, has announced the big furniture building destroyed by fire recently will be rebuilt at once, waiting only on plans and the letting of contract.

Portage, Wis.—W. H. Egan & Son, Milwaukee, have been awarded the plumbing contract for the hotel, office, and store building now under construction.

Cudahy, Wis.—John J. Tadych, Milwaukee, has been awarded the heating contract for the store building under construction on Layton avenue.

Milwaukee, Wis.—Herman Lepp has been awarded the plumbing contract and Harry Eigner has been awarded the heating contract for the bank building under con-

struction at 94 Center street for the Holton Street State Bank.

Baltimore, Md.—Contract for the construction of a $100,000 addition to the Park Bank, Lexington and Liberty streets, has been awarded to Morrow Bros., builders. Josias Pennington is the architect of the building, which will be five stories high.

Cincinnati, Ohio—The Mayer Jewelry Co. contemplates erecting a four-story brick building to cost $100,000.

Huntsville, Ala.—The plumbing and heating contract in the erection of the new store building for the Mason Furniture Co., has been let to H. C. Blake.

Apartments and Hotels

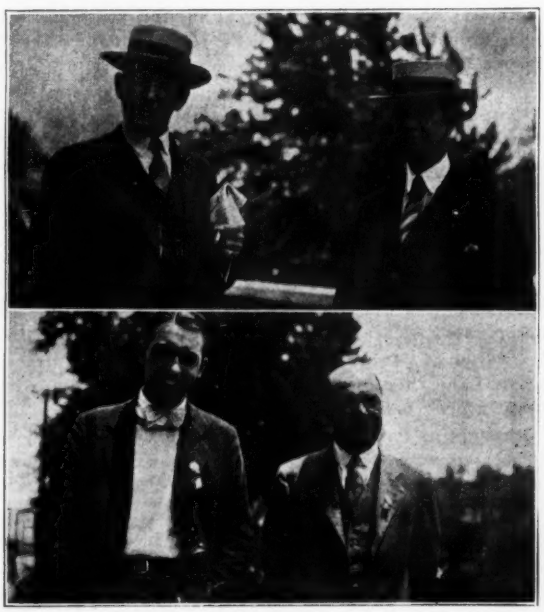
Portsmouth, Ohio.—The Rogers Hotel Co. has awarded the heating and plumbing contracts on its three-story addition to the Harry Meyer Plumbing Co.

Buffalo, N. Y.—Plans have been filed by William S. Preyer for the construction of a five-story apartment building at Delaware avenue and Bryant street. The building will be 105x151 ft. The construction of the building will be under the supervision of Lasser-Preyer Co., Inc.

New Orleans, La.—Mason & Sporl, architects, Vincent building, are preparing plans and specifications to go on the market for general contract bids about the middle of July for the erection of a six-story apartment building at North Rampart and Conti streets. This is a correction of a previous item stating that E. I. Markel was the architect for the project.

Vancouver, B. C., Can.—The addition of 50 rooms, each with a bath, will be made at once to the Harrison Springs hotel, a noted summer resort near this city.

Racine, Wis.—The Zuehlke-Stoehr Heating Co., Milwaukee, has been awarded the plumbing and heating contract for the 18-apartment building under construction.



Top picture: E. E. McNair, vice president of the U. S. Radiator Corp., Detroit, Mich.; D. E. McCabe of the International Heater Co., Utica, N. Y.—Bottom picture: W. W. Ross of the American Radiator Co.; C. H. Gusson, Jr., of Warren Webster & Co., Camden, N. J. Photos taken at the recent convention of the Heating and Piping Contractors' National Association held at West Baden, Ind.

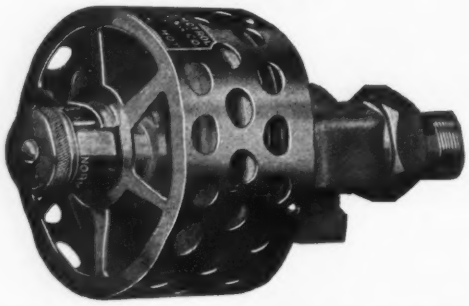
TRADE MARK
SIGNET
REG. U.S. PAT. OFF.
INSURANCE
AGAINST FLOODED BASEMENTS
Where the Signet Drain is installed there can be no back water.
A perfectly reliable trap that automatically keeps out sewage, gas and germs.
Always works. Nothing to get out of order. Brass working parts submerged.
The Signet is clean, sanitary, simple, durable and efficient.
Pat. Dec. 3, 1914
Write for Details
Crampton-Farley Brass Co.
Kansas City, Mo.

B·U·L·L·A·R·D
ROOF FLASHINGS
Made of the Finest Metal
Bullard Roof Flashings have met with such decided success because they have proven themselves absolutely reliable.
The BULLARD SPECIALTY CO.
Tiffin, Ohio

The LAWSON PIPE WRENCH
FORGED STEEL THROUGHOUT
Compare!
and your next wrench will be a LAWSON
If your Jobber cannot supply you, write
THE LAWSON MANUFACTURING CO.
2720-24 East 53rd St. · · · Cleveland, Ohio

Domestic—Industrial and Swimming Pool
Water Filters
A standard size for every use.
Built complete in Our Own Plant.
Get Our Quotation on Your Jobs
GRAVER Corporation
110 Todd Ave. East Chicago, Ind.

Sterlco
TRADE MARK



The THERMOTROL

The past heating season has proven the efficiency of the Thermotrol and demonstrated its qualities as a room temperature regulator.

We now announce the new model Thermotrol, *improved in appearance, more* smooth in operation, yet maintaining the same principle as the original Thermotrol. *Write for Bulletin No. 38.*

STERLING ENGINEERING CO.
1636-44 Holton St. Milwaukee, Wisc.

Bigger Profits
with
Health-o-Meter
GUARANTEED
Automatic Bathroom Scale

Because of its unquestionable efficiency and unequalled economy the Health-O-Meter is a fast selling home scale. The demand increases daily and now is the time to order these in preparation for sales that mean bigger profits for you. Write for details today.

Continental Scale Works
5701 Claremont Ave.
Desk 68-G CHICAGO, ILL.

Baltimore, Md.—William P. Pearson has filed plans for a four-story apartment at 2 East Thirty-third street. The building will occupy a site 42 by 163 feet and will have sixteen apartments.

Canton, Ohio—An apartment hotel of thirty suites will be erected at Sixth and High avenues for Louis Hoicowitz at a cost of $175,000. Plans are under way.

Springfield, Mass.—Wallace Dibble, 21 Besse place, has been commissioned to prepare plans for a brick apartment house, 75x105 feet, four stories high. The building will cost around $100,000 and will be erected at 14 Mattoon street for Oscar W. McMahon.

Washington, D. C.—M. Lurie and Co., 636 Princeton place, have the plumbing contract in the erection of the $175,000 apartment building at Tenth and D streets, N. E., for Gelman and Haves, 4820 Seventh street, N. W.

Philadelphia, Miss.—Alex Kerr has been awarded the $14,800 plumbing and heating contract in the erection of a new hotel.

Jackson, Miss.—The Curtiss Plumbing Co. has the plumbing contract in the erection of the $400,000, eight-story Southern Hotel.

Toledo, Ohio—Sam Rockels will build a 24-suite apartment building at a cost of $80,000. George Rheinfrank, Guardian building, is the architect.

Toledo, Ohio—*Reuben Murray and a syndicate of West* Toledo, Ohio, will erect an apartment court embracing 40 business plots and 10 buildings of 6 apartments each. The site will be on East Philipps avenue near Collingwood.

Miscellaneous

Baltimore, Md.—James McCrae & Son, 19 North Carrollton avenue, heating and plumbing contractors, will erect a new shop and office on Sissons street, near 25th street. The new structure will be of brick and steel construction, 130 by 135 ft., and will cost $20,000.

Camas, Wash.—The city is calling for bids on three miles of sewer to cost between $40,000 and $50,000. Stevens & Koon, engineers in the Spalding building, Portland, have the plans.

West Allis, Wis.—Henry Otto of Milwaukee has been awarded the plumbing contract on seven bungalows which are under construction on Sixty-second and Sixty-fourth avenues.

New Business Ventures

Philadelphia, Pa.—The Standard Heating Co. has been incorporated with a capital of $25,000, by H. W. Ramsay of Newton Square.

Salt Lake City, Utah—A master plumber's license has recently been issued to E. K. Higson.

Pittsburgh, Pa.—The Victor Heating Co. has been incorporated with a capital of $5,000, by W. W. Brown, 208 Depot street, Salem, Ohio.

Miami, Fla.—The Harris Bros. Plumbing Co. of Florida, 139 North East Second street, has been incorporated with a capital of $50,000, by S. H. Harris and P. M. Levi.

Portland, Ore.—The Pacific Heating Co. is the name of the new business just started by P. F. Lunda, at 60 Matteson avenue.

Oakland, Calif.—John and Frank Schreiber, recently of *Wilkes-Barre, Pa., have entered the heating business in* Oakland, Calif., under the firm name of Schreiber Brothers. They are located at 2960 Elmwood avenue.

A FEW SHORTS

Waiter! My bill.
What did you have?
I don't know.
Hash is forty cents.

TEACHER: Did you make that face at me?
BRIGHT BOY: No, ma'am. You just happened to walk in front of it.

"Is the editor in?" asked the poet.
"No," said the office boy.
"Here then—just throw this poem in the wastebasket for him, will you?"

FLAPPER: Should I marry a man who lies to me?
FRIEND: Say, do you want to be an old maid?

A mail order house advertised a fashion department and offered advice to those who wanted to know how to dress snappily.
A letter came: "I have a thick neck, prominent eyebrows and a pug nose. What collar should I wear?"
The reply was: "We recommend a leather one with brass studs and a buckle."

CHILD (at theater): "Papa, why does that detective make such a funny face?"
FATHER (intent on the play): "Hush, son. He's probably just smelled a rat."

To stop the barber's conversation with his first remark try this one:
BARBER: Good morning, sir. I haven't seen your face for a long time.
YOU: 'Sfunny. I left most of it on your razor the last time I was here.

GUEST (examining silver): Tudor?
HOST: No. Statler.

"Waiter, bring me a Texas breakfast—a two-pound steak, a quart of whiskey and a hound dog."
"But why the dog, sir?"
"To eat the steak, you fool!"

HE: Didn't I see you taking a tramp through the woods yesterday?
SHE: Sir! The idea! That was my father.

"SY" SEZ

Some Scotchmen don't get weighed because they have to tip the scales.

When a couple of golfers meet, the recording angel has to start writing shorthand.

I am the head of my home, I am.
I do as I please and I don't give a — —,
If splashes of ashes go falling galore,
All over the rugs on the living-room floor;
Nor how many dishes pile up in the sink,
And I don't give a rap if the cat wants a drink.
For I am the boss of my own habitation—
While my wife is away on her summer vacation.
"SY" MARTIN, Owensboro, Ky.

Once it was the blue blood that made aristocrats; now it's the greenback.

It was "Sy" also who made the observation that the word Detroit looked funny without the letters "f.o.b." before it.

L Y T.

List Price Only
$107.50
F. O. B. Indianapolis

Model X—Murdock System

A New Murdock Automatic Water System

Dealers can make more sales—and more profitable sales—with this new Model X Murdock Automatic Water System with 16-gallon tank.

The Model X is rated at 250 gallons per hour and will actually deliver more. It is efficient for any shallow well water supply within its capacity, and ideal for soft-water cistern service auxiliary to city water supply.

The 16-gallon tank improves the high economy of operation characteristic of Murdock Automatic Water Systems by limiting the number of times the pump operates.

Murdock Systems excel in performance because of the positive displacement vacuum pump of simple durable construction which will operate dependably on a 28-foot water lift—even a 30-foot lift in ideal installations. There is a Murdock System for every home water supply requirement.

Good plumbers can build bigger sales as Murdock representatives. Write us for complete information.

MURDOCK PUMP COMPANY
INDIANAPOLIS
Manufacturers of
AUTOMATIC WATER SYSTEMS—DEEP WELL PUMPS
WATER SOFTENERS—AIR COMPRESSORS
CONDENSATION RETURN SYSTEMS

Leonard Thermostatic Water Mixing Valve

Convenience without expense or installation difficulties.

The Leonard Thermostatic Water Mixing Valves are made for all jobs at prices that mean sales to the plumber and satisfaction to the user.

Write for complete information on this line ***now.***

Leonard-Rooke Company

Providence, Rhode Island

Hinges of the Better Kind

Hinge No. 100—Close-Ruf

GRAND HAVEN BRASS FOUNDRY
Grand Haven, Michigan

Hinges for all types of toilet seats

Bath a Day Movement

NEXT week some time members of the Kiwanis club in Williamson, W. Va., are going to have the pleasure of reading "The Story of the Bath." On the front cover of the copies of this fascinating little booklet which are distributed will appear: "Compliments of Kiwanian Bill Blottman."

It would be interesting to follow each of those little booklets with the men who take them and just see what happens. It will go back to the office after the Kiwanis luncheon. As the member sits down to his afternoon work, he will pull the booklet out of his pocket and glance at its cover, turning to the first page to see what's in the thing, anyway. Fifteen minutes later he will be turning the last page. And in between there will have been a lot of chuckles. If he's a good business man he'll think: "I wonder if there's any way I can tie this booklet up to our business." One of the biggest users of the booklet is outside the plumbing field.

Then he'll probably want to show it to one or two of the men in the office and wonder if "we can't get something up like that. Do a world of good." Every time he handles the booklet, of course, he sees the name of Kiwanian Bill Blottman. At the end of the day he'll take it home to show to his wife and maybe to read to the children.

Now—think of that happening to a large number of these booklets—Kiwanian Bill Blottman's name is going to be seen in a number of places, and it's going to be remembered in connection with a mighty pleasant incident. And that's the objective of all advertising.

If you haven't read "The Story of the Bath," ask for a free copy. You'll want to distribute it to your fellow club members. Write "Domestic Engineering." We'll send the copy and a plan for using the booklet.

Epigrams—For Your Use

"Stop, Look and Listen" is a railroad warning, not an office motto.

* * *

Don't call yourself wise because you lack nerve.

* * *

The mosquito observes no protective tariff on hides.

* * *

Always keep your temper—no one else wants it.

* * *

Hanging is too good for some paintings.

* * *

Opportunity knocks—misfortune walks in without that formality.

MASTER PLUMBERS OF NORFOLK, VA., CONTINUE
SALES CAMPAIGNS

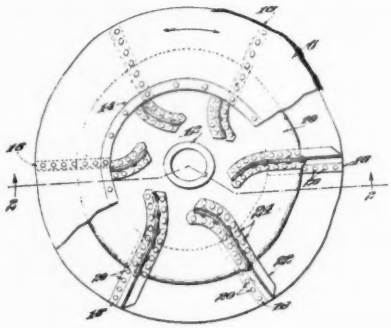
Due to the inclement weather during June, the officers of the Master Plumbers and Heating Association of Norfolk, Va., Inc., have decided to continue the campaign on showers the association is sponsoring, devoting the month of July to the effort. In August, the association will push the sale of vitreous china lavatories, and in September radiators, boilers and accessories will be the special.

A meeting of the heating standardization committee of the association was held on Wednesday evening, June 29, and the body held a special meeting on Tuesday evening, July 5, to discuss certified heating. It is also announced that the annual picnic is to be held on August 6. This is to be a family affair, and members are urged to bring their wives and children.

PATENTS

Heating Department

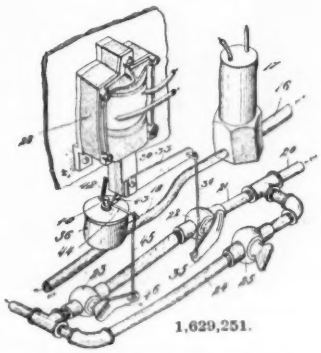
1,628,216. Blower. George W. Allen, Hyde Park, Mass., assignor to B. F. Sturtevant Co., Hyde Park, Mass. A blower wheel comprising a pair of annular side plates, having large central openings for admission of air, a solid rotatable central disk between the side plates of a diameter less than the outer diameter of the side plates and greater than their inner diameter, and a series of floats



1,628,216.

having flanges at their ends riveted to the disk and to the side plates, the inner portions of the floats and the flanges thereon adjacent the disk extending inwardly beyond the inner margin of the side plates and near the center of the disk to provide additional riveting surfaces to the disk without obstruction of the air admission openings of the side plates.

1,629,251. Gas Control for Oil Burners. Harold S. Blake, Attleboro, Mass. In a liquid fuel burner, an electric circuit, separately actuated means in the circuit for supplying air and oil to the burner, main and auxiliary conduits for supplying gas for fuel ignition, a normally



1,629,251.

closed and a normally open valve in said main, electromagnetic means for first opening said closed valve, and a resistance unit interposed between said open valve and said electromagnetic means for controlling a subsequent closing of this second valve after a predetermined open period, substantially as and for the purpose described.

* * *

1,628,066. Gas for Cutting and Welding Purposes. James R. Rose, Edgeworth, Pa., assignor to Carbo-Hydrogen Co. of America, Pittsburgh, Pa. A gas for cutting and welding with oxygen, comprising essentially a mixture of hydrogen with substantially 20 per cent by volume of methane.

Powerful *but Sensitive!*

The Ideal Damper Regulator for Closed Hot Water Systems

TYPE F

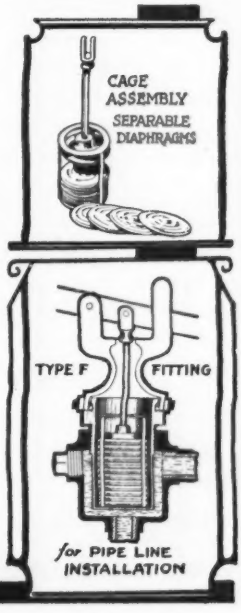
Each Metaphram is a hermetically sealed "wafer" which expands with increase of temperature. Twelve Metaphrams are used in Type F.

Standard equipment on the better boilers.

2″

The volatile liquid in the twelve Metaphram expansion units of the Type F makes it the most powerful and most sensitive regulator. Operates on a slight change of temperature—gradually—surely—and with abundant power.

METAPHRAM DAMPER REGULATOR

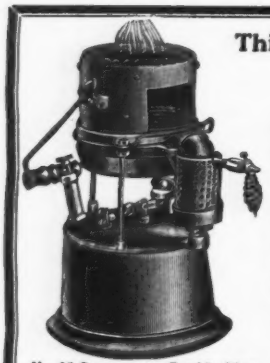


Saves fuel by maintaining uniform heat by perfect draft regulation. Type F operates in a 2″ dry well in boiler or in special fitting in pipe line. Y fitting may be used. Type F is removable for inspection or replacement ***without draining boiler.***

Make installations more satisfactory to owner and more profitable to you by adding a Type F.

NATIONAL REGULATOR CO.
2301 KNOX AVENUE CHICAGO
Manufacturers of the National System of Automatic Temperature Control

METAPHRAM



This is the Fire Pot that Produces Results

WHY?

BECAUSE

It will melt a 4-inch pot of metal.
A 2½-pound copper will heat and melt solder in TWO MINUTES.
The pot will generate and operate outdoors in ANY KIND OF WEATHER.
It will heat irons as fast as they are cooled. No time wasted.
Less than a gallon of gasoline is used in a day.
It is smokeless and odorless while in operation.
It can be turned down low when not in use.
This pot fills the bill when extra fine work is to be done and every shop should have one.

Order yours now. Only $10.00 f. o. b. factory. Two per cent discount when cash accompanies the order.

No. 35 Combination Double Blast Gasoline Fire Pot for Plumbers and Tinners

DOUBLE BLAST MFG. CO., Inc.
Commonwealth Ave. North Chicago, Ill.

WOLVERINE Septic Tanks

Get that business outside the sewer limits.

The best range of sizes for all requirements. Fits any job. No guess work. Can be sold and installed like any fixture. Wolverine Septic Tanks have been tested for years.

Write today for complete description and prices.

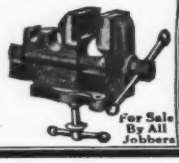
DAIL STEEL PRODUCTS CO.
2000 Main St. Lansing, Mich.

Vanderman's Steel Tool Chests

AND

Combination Bench Pipe Vise

Send for Catalogue



Manufactured and for Sale by
The Vanderman Mfg. Co.
Willimantic, Conn.

For Sale By All Jobbers

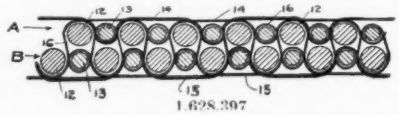
EUREKA *Means Excellence*

IN LAUNDRY TRAYS

Only the finest concrete, moulded by a special process into laundry trays that never crack or crumble, is what the name Eureka means to you.

Hanneman Bros.
7841 South St. Detroit, Mich.

1,628,397. Air Filter. Frank K. Ewing, Worcester, Mass., and Stanley R. Cummings, Canton, Ohio, assignors to The Hoover Co., a Corporation of Ohio. A multiple ply fabric for filters comprising loosely twisted yarns,

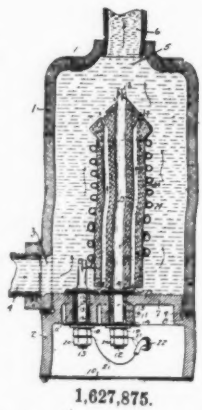


1,628,397

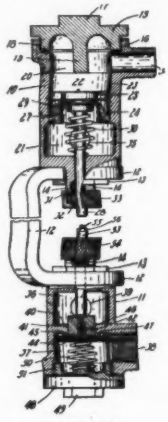
each ply comprising alternately arranged relatively large and small loosely twisted yarns, each ply offset to place a large yarn of one ply under a smal yarn of an adjacent ply, and warp yarns securing the loosely twisted yarns in place.

Plumbing Department

1,627,875. Electric Water Heater. Jesse J. Underwood, Tacoma, Wash., assignor of one-half to Joseph B. Antonette, Tacoma, Wash. An electric water heater comprising a fixed water chamber provided with connections to the hot water system, whereby it is supported; a removable base closing the lower end of said water chamber and supported thereby, said base having a pair of passages therethrough; a pair of terminals passing through said passages, one such terminal being longer than the other, and each provided with a collar within said chamber and with a screw-nut on its outer end; a water-tight insulating packing in each said passage and surrounding the respective terminal, said packing being compressed within said passage by the screw-nut and the collar whereby leakage of water around the terminal is prevented; an inner insulating tube loosely surrounding the longer of said terminals whereby a free passage for water is provided between the terminal and its insulator; an outer insulating tube loosely surrounding said inner insulating tube, whereby a free passage for water is provided between said inner and outer insulating tubes; a submerged electric heating wire mounted on said outer insulating tube; and connections between the ends of said heating wire and said terminals, respectively, whereby electric energy may be conducted to said heating wire.



1,627,875.



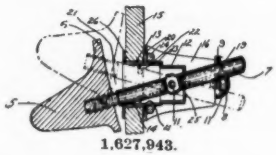
1,627,830.

1,627,830. Valve Construction for Automatic Hot-Water Heaters. Joseph W. Buckley, Springfield, Mass. A water valve for instantaneous water heaters comprising a chamber having a main portion and an enlarged end portion, an inlet opening into the main portion and an outlet opening out of the enlarged portion, a piston sliding in the main portion, connections operable to open a gas valve when the piston is projected into the enlarged portion of

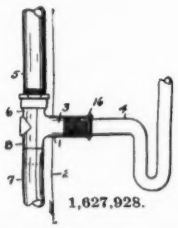
the chamber, said piston having an annular recess intermediate of its length and vents leading into said recess from the end of the piston remote from the enlarged portion of the chamber, whereby the water flow will be through the vents and the recess into the enlarged portion of the chamber.

* * *

1,627,943. Rocking-Handle Flush-Tank Fitting. Arthur W. Wellington, Waterbury, Conn., assignor to The Chase Companies, Inc., Waterbury, Conn. An assembly or unit for rocking-handle flush-tank fittings, consisting of a threaded sleeve having its inner end reduced in diameter, a shaft passing through the said sleeve, projecting at each end therefrom, and a pin passing through the reduced end of the sleeve and through the shaft which rocks upon it and shorter in length than the full diameter of the sleeve.



1,627,943.

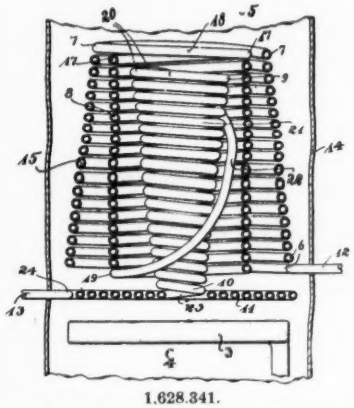


1,627,928.

1,627,928. Vented Waste-Pipe Fitting. Charles F. Pressler, Fort Wayne, Ind. A device of the class described comprising a T-shaped fitting having annular discharge and venting portions in vertical alinement and an annular inlet portion adapted to be removably connected to a waste pipe leading from a plumbing fixture, and having communication with both the discharge and venting portions, the fitting being adapted to be installed in a wall with its inlet portion projecting exteriorly thereof, a seat in the wall of the fitting opposite to and in axial alinement with the inlet portion and an open ended tube adapted to be inserted into the inlet portion and engaged at one end in the said seat and having a port therein adapted to register with the discharge portion, said tube having its outer end threaded.

* * *

1,628,341. Water Heater. William J. Towles, Eugene L. Towles and George M. Towles, Los Angeles, Calif. In a water heater, a conical water coil disposed with its wider winding at the bottom and with the narrower wind-



1.628.341.

ing at the top and provided with a cool water supply connection, a second coil with windings in a cylindrical form having communication with the first coil, a third coil of conical form with the wider winding disposed at the top and the narrower winding at the bottom having commu-

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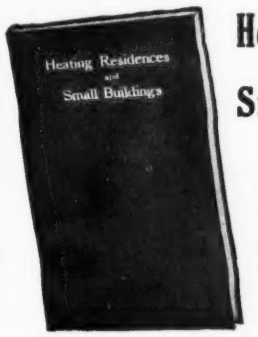

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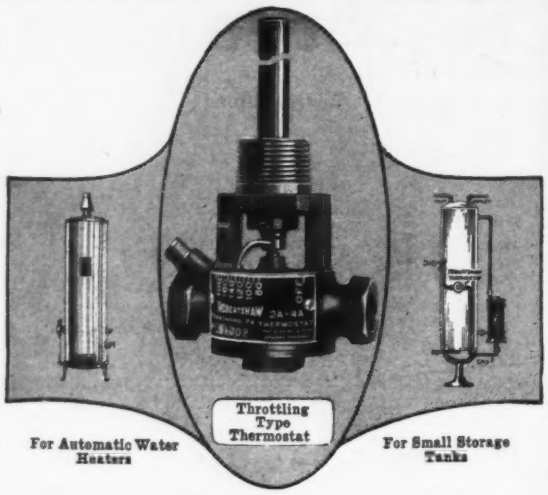

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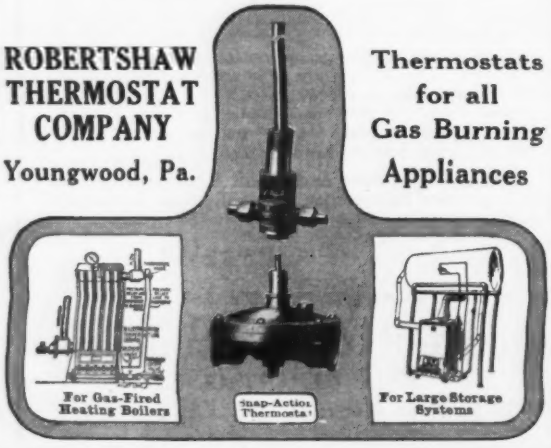
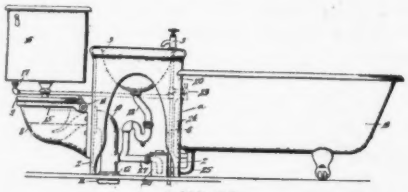


nication with the second-named coil, the cylindrical coil being disposed between the two conical coils so as to form two comparatively equal passages on both sides of the cylindrical coil wider at the bottom and narrower at the top so as to assure an even heating of the central cylindrical coil, and a flat coil disposed transversely below the other three coils having communication with the last-named coil and forming the water outlet of this coil system.

* * *

1,628,345. Bathroom Unit. Arthur K. White, Zarephath, N. J. A plumbing unit comprising separate bath room fixtures connected to one another, and comprising a

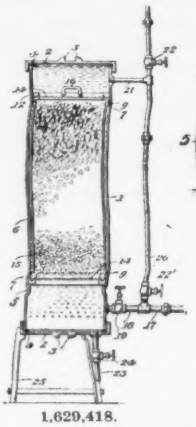


1,628,345.

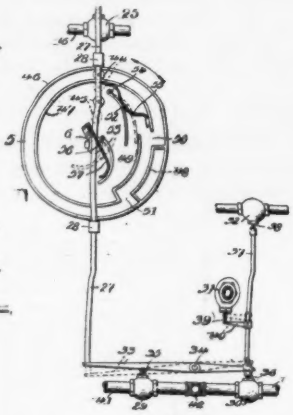
stationary toilet, a stationary tub and a stationary basin frame between the toilet and the tub and supporting both the toilet and tub, and the toilet counterbalancing part of the load of the tub on the frame.

* * *

1,629,418. Filter Sidney L. Smith, Pittsburgh, Pa. A filter of the class described comprising a casing, a screw cap closing each end thereof, a filtering medium in the casing comprising a cylinder containing filtering material, gaskets between the cylinder and the casing, a screen at each end of the cylinder, a ring fastened to each end of the cylinder for holding the screen in place, each ring having a rib and each end of the cylinder having a groove for receiving the rib and the edge of the screen and a handle on the top ring.



1,629,418.

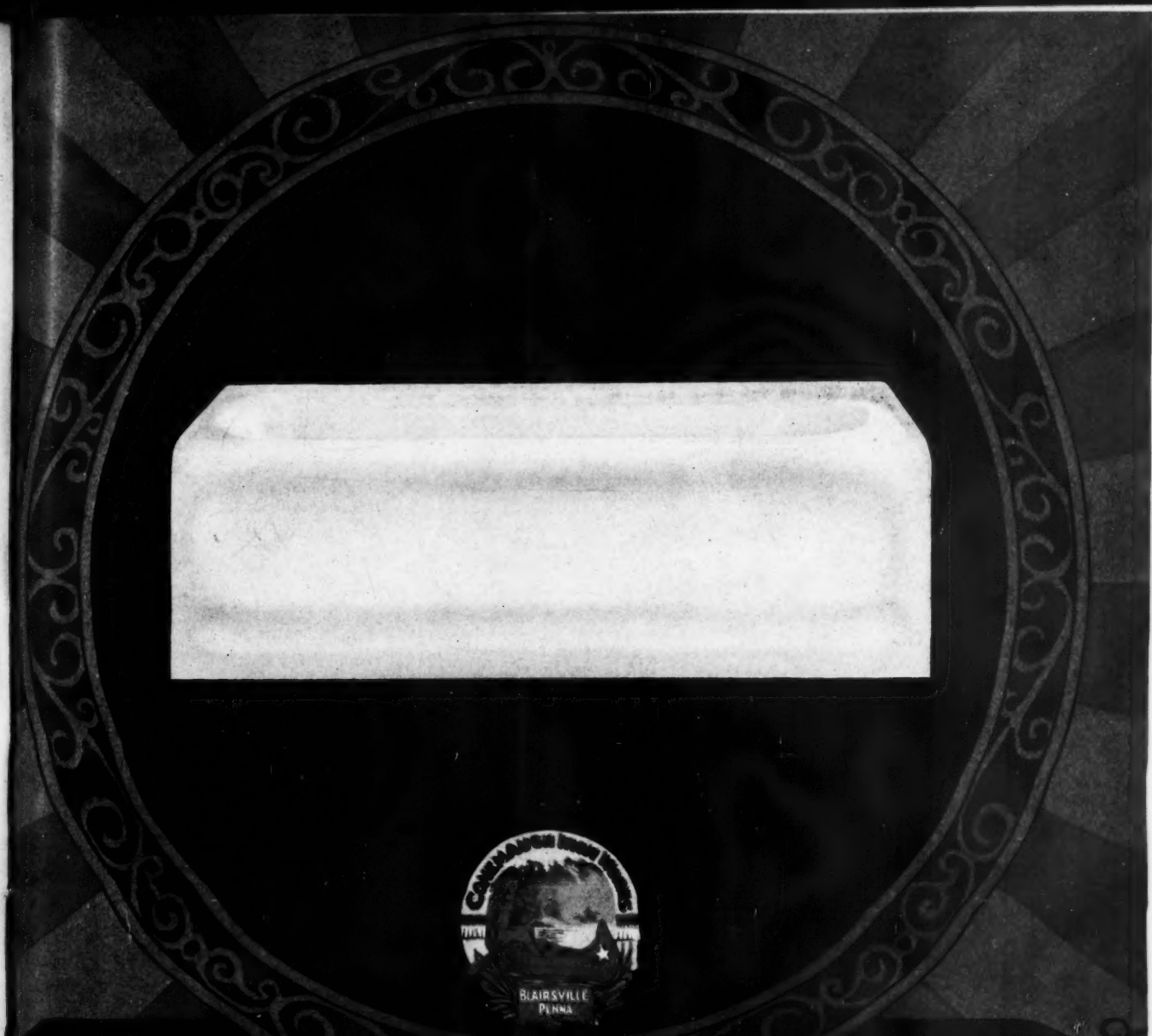


1,627,903.

1,627,903. Automatic Control Mechanism for Water Softeners. Albert C. Hougland, St. Paul, and Lynn G. Lindsay, Minneapolis, Minn. In an automatic control for a water softener having valve mechanism for controlling the flow of water and regenerating fluid therethrough, the combination with a water-driven motor, of means for supplying water to said softener through said motor.

* * *

1,628,541. Water Softener. Oscar W. Johnson, Rockford Ill., assignor to Ward-Love Pump Corporation, Rockford, Ill. The method of operating a base-exchange water softener which consists, first, in passing hard water through a zeolite material bed for softening, second, pass-



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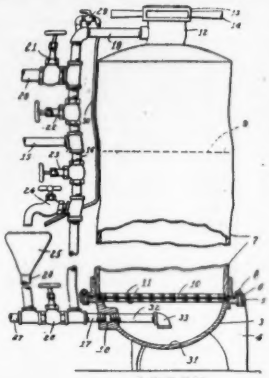
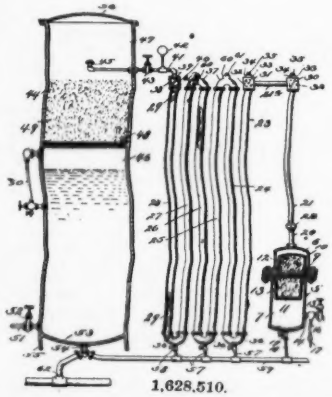
ing brine or other reagent with hard water through the bed of material in one direction for regenerating the same, and third, passing hard water in the opposite direction through the bed to wash the same, the hard water being accompanied with a certain amount of brine or reagent sufficient to regenerate whatever amount of material in the bed was exhausted in whole or part by the passage of the hard water with the brine through the material during regeneration.



1,628,541.

* * *

1,628,510. Apparatus for Filtering and Purifying Water. Charles H. Perry, Miami, Fla. An apparatus for filtering and purifying water, comprising a centrally located series of upright filtering pipe conduits connected at their upper and lower extremities by connecting bends, the said pipe conduits and bends being all filled with filtering material.



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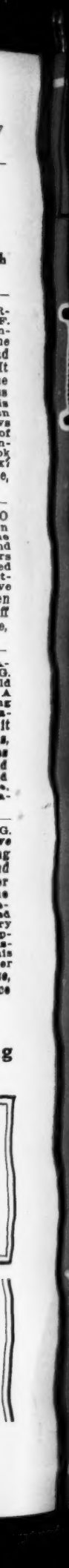
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